MASTER

M 2

19 PC CHASSIS

25 PC CHASSIS

~~PC CHASSIS~~

GENERAL ELECTRIC

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PC CHASSIS MODEL INDEX

19 Inch Models

PC CHASSIS
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(NOTE: *THESE PAGES HAVE NOT BEEN ISSUED AT THIS TIME)

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PC CHASSIS

PC CHASSIS
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(NOTE: *THESE PAGES HAVE NOT BEEN ISSUED AT THIS TIME)

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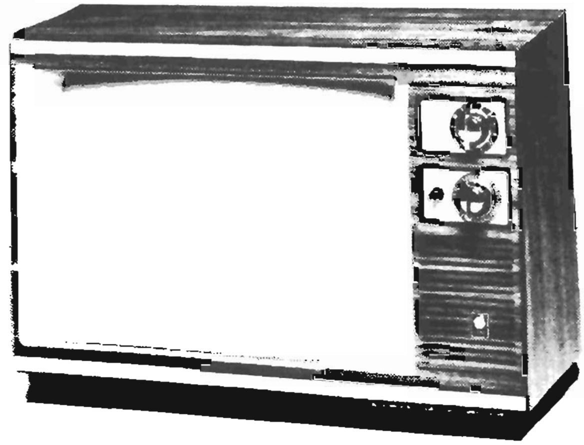
GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

TELEVISION
PC CHASSIS
19PCC783WA01

Check Service Number before ordering parts.



GENERAL INFORMATION

CHASSIS TYPE:	**PC-A**
TUNING SYSTEM:	**Direct**
PICTURE TUBE:	**19VMZP22**
VHF TUNER:	★ **EP86X83**
UHF TUNER:	★ **EP86X75**
AUTO COLOR AVERAGING MODULE:	**EP93X382**
SPEAKER: 16 ohm, 4"	**EP95X25**
FIDDLE FREE KNOB KIT	**EP43X406**

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

CAT. NO.	REF. NO.	DESCRIPTION
EP49X471	R4194	ON/OFF - Vol. 50K ohm, 30% SPST
EP49X352	R4220	BRIGHTNESS - 10K ohm, 20%
EP49X352	R4260	PICTURE - 10K ohm, 20%
EP49X352	R4300	TINT - 10K ohm, 20%
EP49X352	R4301	COLOR - 10K ohm, 20%
EP49X475	R5198	VOL Limit, 50K ohm, 20%
EP39X134	S4010	Color Averaging, Slide Type

KNOBS

CAT. NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X363	False Fine Tune, Black
EP43X338	ON/OFF, Vol., White w/Retainer
EP43X381	VHF Selector, Black, w/Retainer
EP43X388	VHF Fine Tune, Black, w/Retainer
EP43X359	UHF Selector, Black & Chrome w/Retainer
EP43X361	UHF Fine Tune, Black w/Retainer
EP43X368	UHF Indicator, Black & Chrome, w/Retainer

CABINET BACK PARTS

CAT. NO.	DESCRIPTION
EP37X56	ANTENNA TERMINAL BOARD - Complete
EP98X440	BACK - Black, Plastic
★ EP96X19	CORD - AC Power, Polarized
EP4X176	COVER - Service Information, Black, Plastic

CABINET FRONT PARTS

CAT. NO.	DESCRIPTION
EP99X411	FRONT - Cherry Woodgrain, Plastic
EP4X219	ESCUTCHEON - Fiddle Free UHF Cover
EP89X450	ESCUTCHEON - UHF/VHF & Speaker, Cherrywood
EP4X358	OVERLAY - VHF/UHF Readout
EP4X292	OVERLAY - Secondary Controls, Vinyl
EP4X127	OVERLAY - Nameplate

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION ON PAGE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.

USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

CHECK SERVICE NUMBERS BEFORE ORDERING PARTS
The characters in parenthesis ( ) after descriptions refer to the last three characters on the serial number label.

GENERAL ELECTRIC
TELEVISION
SERVICE INFORMATION

PC CHASSIS
19PCC785WB03/C03
C04/D06/E06

GENERAL INFORMATION



CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-B/C/D/E
TUNING SYSTEM:	SET112
PICTURE TUBE:	* 19VMZP22
UHF/VHF TUNER:	* EP93X415
SET112 TUNER CONTROL BOARD:	EP93X451 (B03/C03/C04)
SET112 TUNER CONTROL BOARD:	EP93X473 (D05 & Later)
SPEAKER: 16 ohm, 4"	EP95X25

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X352	R4220	BRIGHTNESS-10K ohm, 20% (B03/C03/C04)
EP49X494	R4220	BRIGHTNESS-10K ohm, 20% (D05 & Later)
EP49X352	R4260	PICTURE-10K ohm, 20% (B03/C03/C04)
EP49X494	R4260	PICTURE-10K ohm, 20% (D05 & Later)
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%
EP49X475	R5178	VOL. LIMITER-50K ohm, 20%
*EP39X202	S4000	SWITCH-ON/OFF, Push-Push
EP39X146	SW5008	SWITCH-UHF Cable Select

KEYBOARD

PART NO.	DESCRIPTION
EP62X166	Vol., & Channel Select (B03/C03/C04)
EP62X177	Vol., & Channel Select (D05 & Later)

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X443	ON/OFF, Vol., Black W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X67	ANTENNA TERMINAL BOARD-Complete
EP98X477	BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X440	FRONT-Cherry Woodgrain, Plastic (B03/C03/C04)
EP99X444	FRONT-Cherry Woodgrain, Plastic (D05 & Later)
EP92X110	BRACKET-Upper Controls Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green (B03/C03)
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green (C04 & Later)
EP4X402	DOOR-Keyboard Access (B03/C03/C04)
EP4X430	DOOR-Keyboard Access (D05 & Later)
EP4X415	ESCUTCHEON-Upper Controls, Cover, Black
EP50X60	FIDDLE FREE KIT-W/Thumbwheel & Keyboard Covers
EP89X436	GRILLE-Speaker, Cherry
EP4X291	OVERLAY-"Color/Tint/Brightness etc."
EP4X127	OVERLAY-Nameplate (B03/C03/C04)
EP4X420	OVERLAY-Nameplate (D05 & Later)
EP3X37	SPRING-Access Door (2 Used)
EP2X534	SPRING-CRT Corner Mounting (2 Used)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

TELEVISION
PC CHASSIS
19PCC789WD01/E01

GENERAL INFORMATION

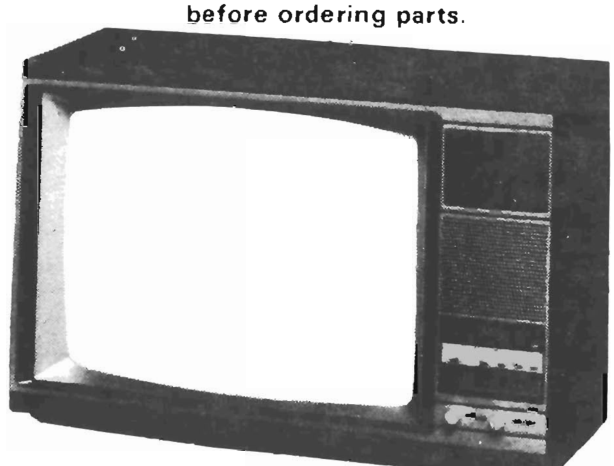
Check Service Number before ordering parts.

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-D/E
TUNING SYSTEM:	KMPS112
PICTURE TUBE:	* 19VMZP22
UHF/VHF TUNER:	* EP93X415
SPEAKER: 16 ohm, 4"	EP95X25
KMPS112 TUNER CONTROL BOARD:	EP93X474
AM/FM RADIO CIRCUIT BOARD:	EP93X506
BATTERY: Nickel Cadmium	* EP58X3
USER'S MANUAL: Fiddle Free	29-9383-83
USER'S MANUAL: Radio/Alarm	29-9388-83

- Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.



19PCC789W (w/Radio-Clock-Timer)

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%
R4260	EP49X494	PICTURE-10K ohm, 20%
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198	EP49X498	DAUL POT.-TV Vol. Limit, 25K ohm, 30%
R5199		Radio Vol. Limit, 25K ohm, 30%
S1	EP39X212	SWITCH-AM/FM, Slide Type
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast Set, Push
KSW05	EP39X206	SWITCH-Clock Slow Set, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
* S4000	EP39X211	SWITCH-Power Clock/Radio, Push/Push
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X180	Vol., & Channel Select

KNOBS

PART NO.	DESCRIPTION
EP47X64	BUTTON-TV/Radio & On/Off Clock Alarm, Chrome
EP47X65	BUTTON-Clock Alarm Set, Fast, Slow, & Alarm On/Time Set, Chrome
EP43X445	ON/OFF, VOL-T.V., Black
EP43X341	THUMBWHEEL-Color, Tint, Brightness, & Picture
EP43X450	TUNING-Radio, Black, W/Retainer
EP43X449	VOL-Radio, Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X72	ANTENNA TERMINAL BOARD-Complete
EP98X510	CABINET BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord Retainer
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X609	BRACKET-Keyboard Mounting, Plastic
EP92X122	BRACKET-Radio/Clock Support, Plastic
EP99X475	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green
EP41X147	CLOCK/TIMER READOUT DISPLAY
EP89X525	ESCUTCHEON-Upper Controls & Speaker
EP50X62	FIDDLE FREE KIT-Complete
EP4X448	FIDDLE FREE COVER-Thumbwheel, Plastic
EP4X457	FIDDLE FREE COVER-Keyboard, Plastic
EP54X247	OVERLAY-T.V. Primary Controls, Black, Lexan
EP4X291	OVERLAY-T.V. Secondary Controls, Inlay
EP4X455	RADIO DIAL SCALE-Lexan
EP2X612	RADIO GEAR-Tuning, Plastic
EP2X613	RADIO POINTER-Plastic
EP2X534	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

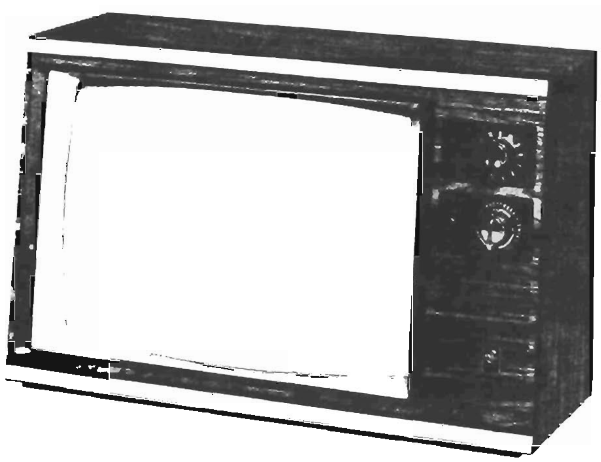
TELEVISION
PC CHASSIS
19PC2705WB02/C02

Check Service Number before ordering parts.

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-B/C
TUNING SYSTEM:	Direct
PICTURE TUBE:	* 19VMZP22
VHF TUNER:	* EP86X83
UHF TUNER:	* EP85X76
SPEAKER: 16 ohm, 4"	EP95X25



* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
*EP49X471	R4194	ON/OFF, VOL.-50K ohm, 30%, SPST
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP43X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X338	ON/OFF, Vol., White, W/Retainer
EP43X381	VHF Selector, Black, W/Retainer
EP43X388	VHF Fine Tune, Black, W/Retainer
EP43X359	UHF Selector, Black & Chrome, W/Retainer
EP43X361	UHF Fine Tune, Black, W/Retainer
EP43X442	UHF Indicator, Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD-Complete
EP98X434	BACK-Black Plastic
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X441	FRONT-Cherry Woodgrain, Plastic
EP89X450	ESCUTCHEON-UHF/VHF & Speaker, Cherry Woodgrain
EP4X412	OVERLAY-UHF & VHF Readout Windows, Lexan
EP4X291	OVERLAY-Secondary Controls Inlay
EP4X127	OVERLAY-Nameplate

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

TELEVISION

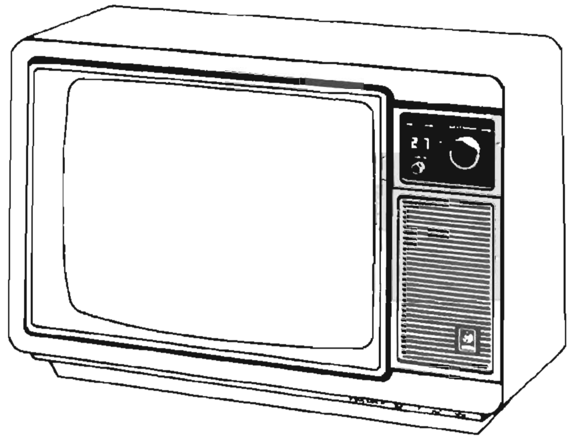
SERVICE INFORMATION

TELEVISION
PC CHASSIS
19PC2712WA01

GENERAL INFORMATION

Check Service Number before ordering parts.

CHASSIS TYPE:	PC-A
TUNING SYSTEM:	ET91
PICTURE TUBE:	★ 19VMZP22
VHF/UHF TUNER:	★ EP93X335
VIR MODULE M-V:	EP93X381
SPEAKER:16 ohm, 4"	EP95X25
ET91 CONTROL MODULE:	EP93X376



* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

CAT. NO.	REF. NO.	DESCRIPTION
★ EP49X474	R4195	ON/OFF - Vol., 50K ohm, 20%
EP49X352	R4260	PICTURE - 1K ohm, 20%
EP49X352	R4220	BRIGHTNESS - 10K ohm, 20%
EP49X352	R4300	TINT - 10K ohm, 20%
EP49X352	R4301	COLOR - 10K ohm, 20%
EP39X134	SW4010	SWITCH - VIR, Slide Type

KNOBS

CAT. NO.	DESCRIPTION
EP43X422	Channel Select, Chrome w/Retainer
EP43X341	Color, Tint, Brightness, Picture, Thumbwheel
EP43X338	ON/OFF, Vol., White, w/Retainer

CABINET BACK PARTS

CAT. NO.	DESCRIPTION
EP90X40	ADAPTOR - 75 to 300 ohms
EP83X19	ANTENNA - Customer Changeable, Complete
EP83X13	ANTENNA - UHF Bowtie Type
EP83X18	ANTENNA - VHF, Fold-Down
EP37X54	ANTENNA TERMINAL BOARD - Complete
EP98X437	BACK - Black, Plastic
EP2X540	CLIP - Power Cord
ES3X29	CLIP - Antenna Terminal
★ EP86X19	CORD - AC Power, Polarized
EP4X175	COVER - Service Information, Black Plastic

CABINET FRONT PARTS

CAT. NO.	DESCRIPTION
EP99X407	FRONT - Cherry Woodgrain, Plastic
EP92X87	BRACKET - ET91 Controls Mounting, Plastic
EP41X89	CHANNEL NUMBER READOUT DISPLAY
EP4X355	ESCUTCHEON - Upper Controls, Bronze, Lexan
EP89X436	GRILLE - Speaker, Cherry Woodgrain
EP4X127	OVERLAY - Nameplate
EP4X292	OVERLAY - "Color/Tint/Brightness/Picture/Etc."
EP3X40	RETAINER - Channel Readout

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION ON PAGE (PC) 3-1.

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

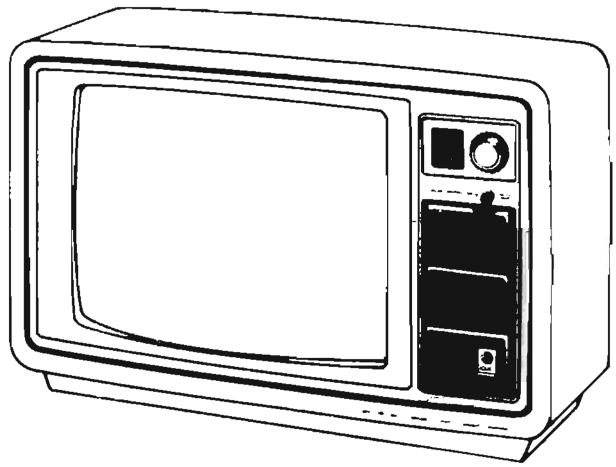
TELEVISION

SERVICE INFORMATION

TELEVISION
PC CHASSIS
19PC2724WA01

GENERAL INFORMATION

Check Service Number before ordering parts.



CHASSIS TYPE:	PC-A
TUNING SYSTEM:	ET-91
PICTURE TUBE:	★ 19VMZP22
VHF/UHF TUNER:	★ EP93X335
LIGHT DEPENDENT RESISTOR BRD:	EP41X120
VIR MODULE M-V:	EP93X381
SPEAKER: 16 ohm, 4"	EP95X25
ET-91 CONTROL MODULE	EP93X376

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

CAT. NO.	REF. NO.	DESCRIPTION
★ EP49X474	R4194	ON/OFF - Vol., 50K, 20%, SPST
EP49X352	R4220	BRIGHTNESS - 10K ohm, 20%
EP49X352	R4260	PICTURE - 10K ohm, 20%
EP49X352	R4300	TINT - 10K ohm, 20%
EP49X352	R4301	COLOR - 10K ohm, 20%
EP39X53	SW4005	SWITCH - VIR, Slide Type

KNOBS

CAT. NO.	DESCRIPTION
EP43X417	Channel Select, Black, w/Retainer
EP43X341	Color, Tint, Brightness, Picture, Thumbwheel
EP43X335	Color/Tint Pref., Black
EP43X338	ON/OFF, Vol., White, w/Retainer

CABINET BACK PARTS

CAT. NO.	DESCRIPTION
EP90X40	ADAPTOR - 75 to 300 ohms
EP83X19	ANTENNA - Customer Changeable, Complete
EP83X13	ANTENNA - UHF, Bowtie Type
EP83X18	ANTENNA - VHF, Fold-Down
EP37X54	ANTENNA TERMINAL BOARD - Complete
EP98X436	BACK - Black, Plastic
EP2X540	CLIP - Power Cord
ES3X29	CLIP - Antenna Terminal
★ EP66X19	CORD - AC Power, Polarized
EP4X175	COVER - Service Information, Black, Plastic

CABINET FRONT PARTS

CAT. NO.	DESCRIPTION
EP99X406	FRONT - Cherry Woodgrain, Plastic
EP41X89	CHANNEL NUMBER READOUT DISPLAY
EP89X395	ESCUTCHEON - Controls & Speaker, Plastic
EP89X290	GRILLE - Cloth, Speaker, Black
EP2X157	LIGHT PIPE - Light Sensor
EP4X255	OVERLAY - ET-91 Controls, Bronze, w/Windows
EP4X99	OVERLAY - Nameplate
EP41X14	PILOT LIGHT - VIR, Red
EP3X40	RETAINER - LED Holder

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION ON PAGE (PC) 3-1

[redacted]

TELEVISION PRODUCT SERVICE, COLLEGE BLVD., PORTSMOUTH, VIRGINIA

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

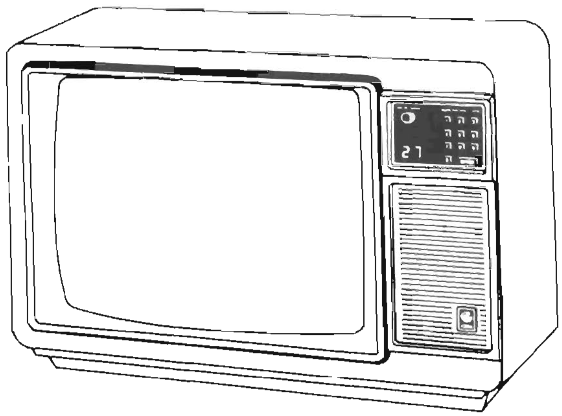
TELEVISION
PC-A CHASSIS

19PC2730WA01
19PC2732WA01

Check Service Number before ordering parts.

GENERAL INFORMATION

CHASSIS TYPE:	PC-A
TUNING SYSTEM:	KMP-91
PICTURE TUBE:	★ 19VMZP22
VHF/UHF TUNER:	★ EP93X388
COLOR AVG. MODULE:	EP93X382
SPEAKER: 16 ohm, 4"	EP95X25
KMP-91 CONTROL MODULE	EP93X312



* Replace picture tube only with original type number or factory approved substitute

The characters in brackets [ ] after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
★ EP49X474	R4195	ON/OFF - Vol. 50K ohm, 20%, SPST
EP49X352	R4220	BRIGHTNESS - 10K ohm, 20%
EP49X352	R4260	PICTURE - 10K ohm, 20%
EP49X352	R4300	TINT - 10K ohm, 20%
EP49X352	R4301	COLOR - 10K ohm, 20%
EP39X134	SW4010	SWITCH - Color Avg., Slide Type (19PC2732W)

KEYBOARD

EP93X185	Channel Select

KNOBS

EP43X341	Color, Tint, Brightness, Picture, Thumbwheel
EP43X338	ON/OFF, Vol., White, w/Retainer

CABINET BACK PARTS

EP90X40	ADAPTOR - 75 to 300 ohms
EP83X19	ANTENNA - Customer Changeable, Complete
EP83X13	ANTENNA - UHF, Bowtie Type
EP83X18	ANTENNA - VHF, Fold-Down
EP37X54	ANTENNA TERMINAL BOARD - Complete
EP98X437	BACK - Black, Plastic
EP2X540	CLIP - Power Cord
ES3X29	CLIP - Antenna Terminal
★ EP66X19	CORD - AC Power, Polarized
EP4X175	COVER - Service Information, Black, Plastic

CABINET FRONT PARTS

EP99X408	FRONT - Cherry Woodgrain, Plastic (19PC2730W)
EP99X407	FRONT - Cherry Woodgrain, Plastic (19PC2732W)
EP92X88	BRACKET - KMP Controls Mounting, Plastic
EP41X60	CHANNEL NUMBER READOUT DISPLAY - Red
EP54X230	ESCUTCHEON - Upper Controls, Black Plastic (19PC2730W)
EP4X356	ESCUTCHEON - Upper Controls, Bronze Plastic (19PC2732W)
EP89X436	GRILLE - Speaker, Cherry Woodgrain (19PC2730W)
EP89X437	GRILLE - Speaker, Cherry Woodgrain (19PC2732W)
EP4X291	OVERLAY - "Color/Tint/Brightness/Picture, etc." (19PC2730W)
EP4X292	OVERLAY - "Color/Tint/Brightness/Picture, etc." (19PC2732W)
EP4X127	OVERLAY - Nameplate
EP3X40	RETAINER - Channel Readout, Spring

P88-01

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION ON PAGE (PC) 3-1.

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

TELEVISION

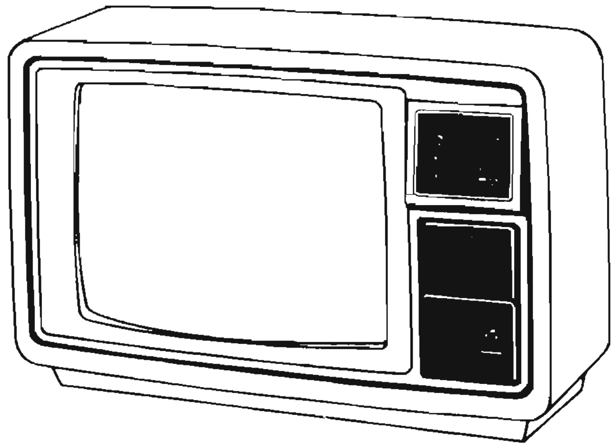
SERVICE INFORMATION

TELEVISION
PC CHASSIS
19PC2734WA01

Check Service Number before ordering parts.

GENERAL INFORMATION

CHASSIS TYPE:	PC-A
TUNING SYSTEM:	KMP-91
PICTURE TUBE:	★ 19VMZP22
VHF/UHF TUNER:	★ EP93X388
LIGHT DEPENDENT RESISTOR BRD:	EP41X120
VIR MODULE M-V:	EP93X381
SPEAKER: 16 ohm, 4"	EP95X25
ET-91 CONTROL MODULE	EP93X312



* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

CAT. NO.	REF. NO.	DESCRIPTION
★ EP49X474	R4194	ON/OFF - Vol., 50K, 20%, SPST
EP49X352	R4220	BRIGHTNESS - 10K ohm, 20%
EP49X352	R4260	PICTURE - 10K ohm, 20%
EP49X352	R4300	TINT - 10K ohm, 20%
EP49X352	R4301	COLOR - 10K ohm, 20%
EP39X53	SW4005	SWITCH - VIR, Slide Type

KEYBOARD

CAT. NO.	DESCRIPTION
EP93X185	Channel Select

KNOBS

CAT. NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, Picture, Thumbwheel
EP43X335	Color/Tint Pref., Black
EP43X338	ON/OFF, Vol., White, w/Retainer

CABINET BACK PARTS

CAT. NO.	DESCRIPTION
EP90X40	ADAPTOR - 75 to 300 ohms
EP83X19	ANTENNA - Customer Changeable, Complete
EP83X13	ANTENNA - UHF, Bowtie Type
EP83X18	ANTENNA - VHF, Fold-Down
EP37X54	ANTENNA TERMINAL BOARD - Complete
EP98X436	BACK - Black, Plastic
EP2X540	CLIP - Power Cord
ES3X29	CLIP - Antenna Terminal
★ EP66X19	CORD - AC Power, Polarized
EP4X175	COVER - Service Information, Black, Plastic

CABINET FRONT PARTS

CAT. NO.	DESCRIPTION
EP99X406	FRONT - Cherry Woodgrain, Plastic
EP92X78	BRACKET - KMP-91 Controls Mounting, Plastic
EP41X60	CHANNEL NUMBER READOUT DISPLAY - Red
EP89X455	ESCUTCHEON - Controls & Speaker, Cherry, Plastic
EP89X291	GRILLE - Cloth, Speaker, Black
EP2X157	LIGHT PIPE - Light Sensor
EP4X127	OVERLAY - Nameplate
EP41X14	PILOT LIGHT - VIR, Red
EP3X40	RETAINER - LED Holder, Spring
EP4X251	WINDOW KMP-91 Keyboard Cover

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION ON PAGE (PC) 3-1

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

TELEVISION

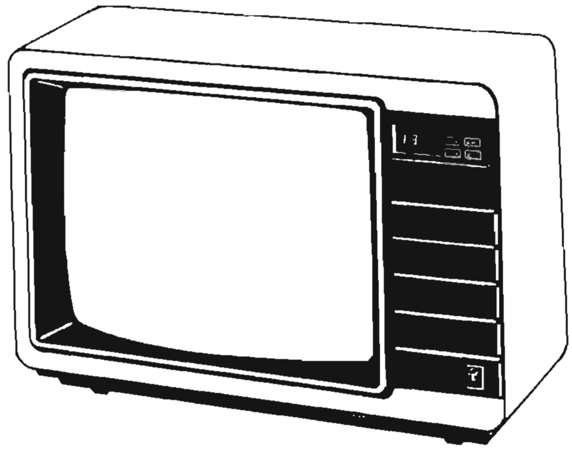
SERVICE INFORMATION

TELEVISION
PC CHASSIS
19PC2742WA01

Check Service Number before ordering parts.

GENERAL INFORMATION

CHASSIS TYPE:	PC-A
TUNING SYSTEM:	LMP-91
PICTURE TUBE:	★ 19VMZP22
VHF/UHF TUNER:	★ EP93X334
COLOR AVG. MODULE:	EP93X382
REMOTE RECEIVER MODULE M-F:	EP93X225
REMOTE TRANSMITTER MJ:	76-5-1901
SPEAKER: 16 ohm, 4"	EP95X25
LMP-91 CONTROL MODULE	EP93X279



* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X352	R4220	BRIGHTNESS - 10K ohm, 20%
EP49X352	R4260	PICTURE - 10K ohm, 20%
EP49X352	R4300	TINT - 10K ohm, 20%
EP49X352	R4301	COLOR - 10K ohm, 20%
EP39X134	SW4010	SWITCH - Color Avg., Slide Type

KEYBOARD

EP62X135	ON/OFF, Vol., Channel Select

KNOB

EP43X341	Color, Tint, Brightness, Picture, Thumbwheel

CABINET BACK PARTS

EP90X40	ADAPTOR - 75 to 300 ohms
EP83X19	ANTENNA - Customer Changeable, Complete
EP83X13	ANTENNA - UHF, Bowtie Type
EP83X18	ANTENNA - VHF, Fold-Down
EP37X54	ANTENNA TERMINAL BOARD - Complete
EP98X437	BACK - Black, Plastic
EP2X540	CLIP - Power Cord
ES3X29	CLIP - Antenna Terminal
★ EP66X19	CORD - AC Power, Polarized
EP4X175	COVER - Service Information, Black, Plastic

CABINET FRONT PARTS

EP99X409	FRONT - Cherry Woodgrain, Plastic
EP92X89	BRACKET - LMP Controls Mounting, Plastic
EP41X60	CHANNEL NUMBER READOUT DISPLAY - Red
EP4X290	DOOR - Keyboard Access, Black, Plastic
EP4X357	ESCUTCHEON - Upper Controls, Bronze, Lexan
EP89X437	GRILLE - Speaker, Cherry Woodgrain
EP4X292	OVERLAY - "Color/Tint/Brightness/Picture etc."
EP4X127	OVERLAY - Nameplate
EP3X40	RETAINER - Channel Readout, Spring
EP3X37	SPRING - Acces Door (2)
EP4X289	WINDOW - Sensor

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION ON PAGE (PC) 3-1.

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USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

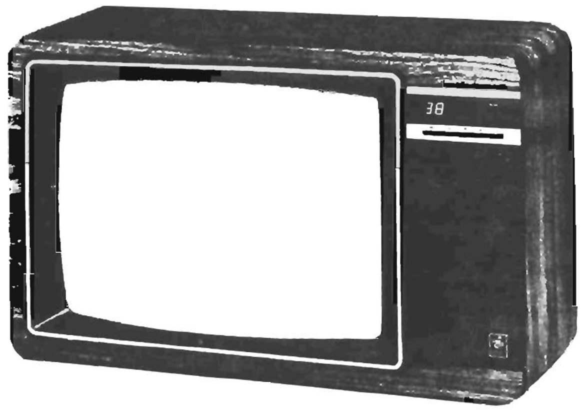
TELEVISION

SERVICE INFORMATION

TELEVISION
PC CHASSIS
19PC2745WB02/B03/C03/C04

GENERAL INFORMATION

Check Service Number before ordering parts.



CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-B/C
TUNING SYSTEM:	LMP112
PICTURE TUBE:	* 19VMZP22
UHF/VHF TUNER:	* EP93X415
REMOTE CONTROL RECEIVER MODULE:	EP93X417 (B02/B03/C03)
REMOTE CONTROL RECEIVER MODULE:	EP93X475 (C04 & Later)
REMOTE CONTROL TRANSMITTER:	EP62X164
SPEAKER: 16 ohm, 4"	EP95X25
LMP112 TUNER CONTROL BOARD:	EP93X413 (B02)
LMP112 TUNER CONTROL BOARD:	EP93X445 (B03 & Later)

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%

KEYBOARD

PART NO.	DESCRIPTION
EP62X161	ON/OFF, Vol., & Channel Select (B02/B03/C03)
EP62X174	ON/OFF, Vol., & Channel Select (C04 & Later)

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms to 300 ohms
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X55	ANTENNA TERMINAL BOARD-Complete
EP98X470	BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X440	FRONT-Cherry Woodgrain, Plastic (B02/B03/C03)
EP99X444	FRONT-Cherry Woodgrain, Plastic (C04 & Later)
EP92X106	BRACKET-Primery Controls Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green (B02/B03/C03)
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green (C04 & Later)
EP4X411	ESCUTCHEON-Upper Controls, Gray
EP89X464	GRILLE-Speaker
EP4X291	OVERLAY-"Color/Tint/Brightness/Etc."
EP4X365	OVERLAY-Window, Snap-In, Plastic
EP4X127	OVERLAY-Nameplate

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

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TELEVISION PRODUCT SERVICE, PORTSMOUTH, VIRGINIA
4/83

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

TELEVISION

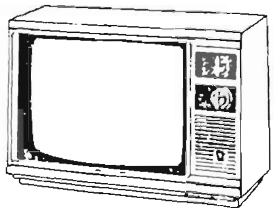
PC CHASSIS
19PC3702WA01/B01/B02/C02
19PC3703WA01/B01/B02/C02
19PC3704WA01/B01/B02/C02

Check Service Number before ordering parts.

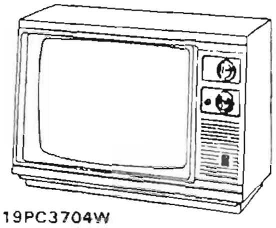
GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A/B/C
TUNING SYSTEM:	Direct
PICTURE TUBE:	* 19VMZP22
VHF TUNER:	* EP86X83
UHF TUNER:	* EP85X75 (A01/B01)
UHF TUNER:	* EP85X76 (B02 & Later)
SPEAKER: 16 ohm, 4"	EP95X25
USER'S MANUAL:	29-9202-82



19PC3702W



19PC3704W

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
*EP49X471	R4194	ON/OFF, VOL.-50K ohm, 30%, SPST
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X338	ON/OFF, Vol., White W/Retainer
EP43X381	VHF Selector, Black, W/Retainer
EP43X388	VHF Fine Tune, Black, W/Retainer
EP43X359	UHF Selector, Chrome, W/Retainer
EP43X361	UHF Fine Tune, Black, W/Retainer
EP43X368	UHF Indicator, Black, W/Retainer (A01/B01)
EP43X368	UHF Indicator, Black, W/Retainer (B02 & Later)

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X18	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD-Complete
EP98X434	BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
EP2X540	CLEAT-Power Cord Storage
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X402	FRONT-Walnut Woodgrain, Plastic (19PC3702W)
EP99X403	FRONT-Cherry Woodgrain (19PC3703W/19PC3704W)
EP89X449	ESCUTCHEON-UHF/VHF & Speaker (19PC3702W)
EP89X450	ESCUTCHEON-UHF/VHF & Speaker (19PC3703W/19PC3704W)
EP4X350	OVERLAY-UHF/VHF Readout, Alum. (19PC3702W)
EP4X351	OVERLAY-UHF/VHF Readout, Alum. (19PC3703W/ 19PC3704W)
EP4X291	OVERLAY-Secondary Controls
EP4X127	OVERLAY-Nameplate
EP1X33	RIVET-Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

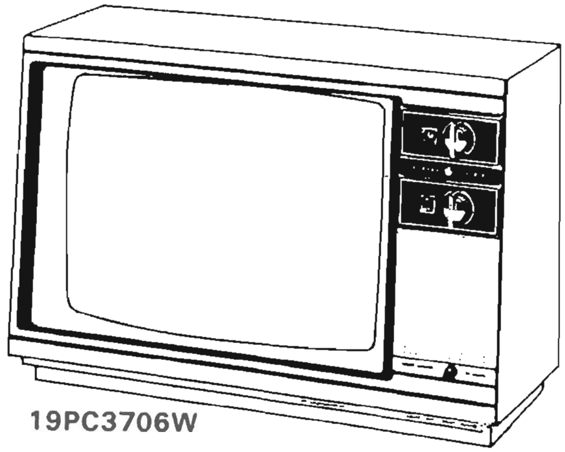
TELEVISION
PC CHASSIS
19PC3706WA01/A02/B02/B03/C03

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A/B/C
TUNING SYSTEM:	Direct
PICTURE TUBE:	* 19VM2P22
VHF TUNER:	* EP86X83
UHF TUNER:	* EP85X75 (A01/A02/B02)
UHF TUNER:	* EP85X76 (B03 & Later)
COLOR MONITOR MODULE:	EP93X382
SPEAKER: 16 ohm, 4"	EP95X25
USER'S MANUAL:	29 9202 82

Check Service Number before ordering parts.



19PC3706W

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF NO	DESCRIPTION
*EP49X473	R4194	ON/OFF, VOL.-50K ohm, 30%, SPST
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%
EP39X134	S4010	COLOR MONITOR SWITCH-Slide Type

KNOBS

PART NO	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X338	ON/OFF, Vol., White, W/Retainer
EP43X434	VHF Selector, Chrome, W/Retainer
EP43X438	VHF Fine Tune, Black, W/Retainer (A01)
EP43X437	VHF Fine Tune, Black, W/Retainer (A02 & Later)
EP43X401	UHF Selector, Black, W/Retainer (A01)
EP43X435	UHF Selector, Black, W/Retainer (A02 & Later)
EP43X400	UHF Fine Tune, Black, W/Retainer (A01)
EP43X436	UHF Fine Tune, Black, W/Retainer (A02 & Later)
EP43X432	VHF Readout Disc, Black, W/Bushing
EP43X433	UHF Readout Disc, Black (A01/A02/B02)
EP43X439	UHF Readout Disc, Black (B03 & Later)

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD-Complete
EP98X434	BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X405	FRONT-Cherry Woodgrain, Plastic
EP89X452	ESCUTCHEON-UHF/VHF & Speaker, Cherry, Lexan
EP89X453	GRILLE-Speaker, Cherry Woodgrain
EP4X354	LENS-UHF/VHF Snap-In
EP4X292	OVERLAY-Secondary Controls
EP4X353	OVERLAY-Nameplate
EP41X128	PILOT LIGHT-UHF/VHF Indicator
EP1X33	RIVET-Plastic
EU34X192	SOCKET-UHF/VHF Pilot Light

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

TELEVISION PRODUCT SERVICE, PORTSMOUTH, VIRGINIA

4/83, (Supersedes 3/82)

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

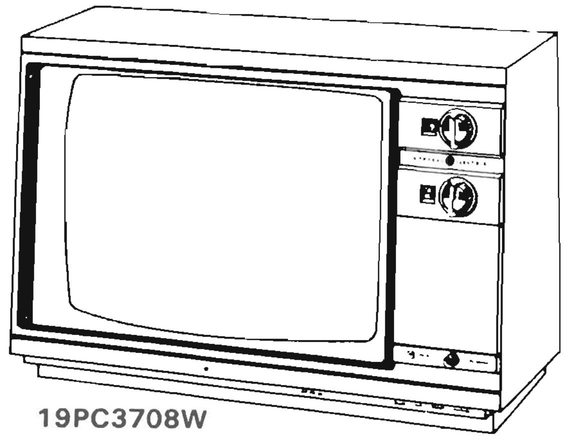
TELEVISION
PC CHASSIS
19PC3708WA01/A02/B02/B03/C03

Check Service Number before ordering parts.

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A/B/C
TUNING SYSTEM:	Direct
PICTURE TUBE	* 19VMZP22
VHF TUNER:	* EP86X83
UHF TUNER:	* EP85X75 (A01/A02/B02)
UHF TUNER:	* EP85X76 (B03 & Later)
LIGHT DEPENDENT RESISTOR BD:	EP14X120
VIR MODULE	EP93X381
SPEAKER 16 ohm, 4"	EP95X25
USER'S MANUAL:	29-9204-82



19PC3708W

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
*EP49X473	R4195/S4195	ON/OFF,VOL.-50K ohm, 30%, SPST
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%
EP39X53	SW4005	SWITCH-VIR, Slide Type

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X335	Color/Tint Pref., Black
EP43X338	ON/OFF, Vol., White, W/Retainer
EP43X434	VHF Selector, Chrome, W/Retainer
EP43X438	VHF Fine Tune, Black, W/Retainer (A01)
EP43X437	VHF Fine Tune, Black, W/Retainer (A02 & Later)
EP43X401	UHF Selector, Black, W/Retainer (A01)
EP43X435	UHF Selector, Black, W/Retainer (A02 & Later)
EP43X400	UHF Fine Tune, Black, W/Retainer (A01)
EP43X436	UHF Fine Tune, Black, W/Retainer (A02 & Later)
EP43X432	VHF Readout Disc, Black, W/Bushing
EP43X433	UHF Readout Disc, Black (A01/A02/B02)
EP43X439	UHF Readout Disc, Black (B03 & Later)

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD-Complete
EP98X435	BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X404	FRONT-Cherry Woodgrain, Plastic
EP89X451	ESCUTCHEON-UHF/VHF & Speaker, Chrome, Lexan
EP89X454	GRILLE-Speaker, Cloth, Charcoal
EP4X354	LENS-UHF/VHF Readout, Lexan
EP2X157	LIGHT PIPE-Light Sensor, Plastic
EP4X345	OVERLAY-Secondary Controls
EP4X352	OVERLAY-Nameplate
EP41X128	PILOT LIGHT-UHF/VHF Indicator
EP41X14	PILOT LIGHT-VIR, Red
EP2X169	RETAINER-LED Holder
EP1X33	RIVET-Plastic
EU34X192	SOCKET-Pilot Light, UHF/VHF Indicator

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION

CHECK SERVICE NUMBERS BEFORE ORDERING PARTS
The characters in parenthesis ( ) after descriptions refer to the last three characters on the serial number label.

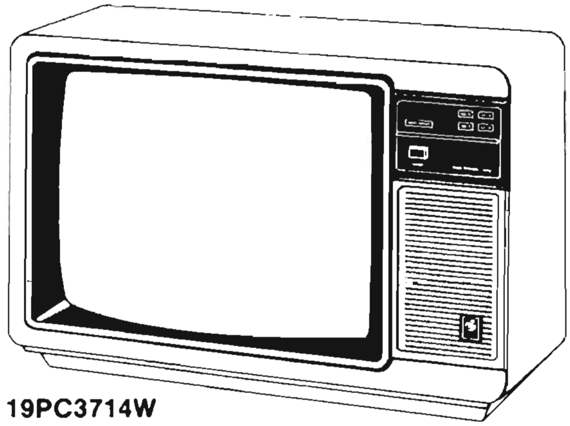
GENERAL ELECTRIC
TELEVISION
SERVICE INFORMATION

PC CHASSIS
19PC3714WB02/B03/C03
C04/D05/E05

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-B/C/D/E
TUNING SYSTEM:	SET112
PICTURE TUBE:	* 19VMZP22
UHF/VHF TUNER:	* EP93X415
SPEAKER: 16 ohms, 4"	EP95X25
SET112 TUNER CONTROL BOARD:	EP93X418 (B02)
SET112 TUNER CONTROL BOARD:	EP93X451 (B03/C03/C04)
SET112 TUNER CONTROL BOARD:	EP93X473 (D05 & Later)



19PC3714W

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R214	EP49X464	SHARPNESS-1K ohm, 20%
R4220	EP49X352	BRIGHTNESS-10K ohm, 20% (B02/B03/C03/C04)
R4220	EP49X494	BRIGHTNESS-10K ohm, 20% (D05 & Later)
R4260	EP49X352	PICTURE-10K ohm, 20% (B02/B03/C03/C04)
R4260	EP49X494	PICTURE-10K ohm, 20% (D05 & Later)
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
* S4000	EP39X202	SWITCH-On/Off, Push-Push
S4010	EP39X134	COLOR MONITOR SWITCH-Slide Type
S5008	EP39X146	SWITCH-UHF Cable Select

KEYBOARD

PART NO.	DESCRIPTION
EP62X166	Vol., & Channel Select (B02/B03/C03)
EP62X177	Vol., & Channel Select (C04 & Later)

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X443	ON/OFF-Vol., Black (B02/B03/C03/C04)
EP43X446	ON/OFF-Vol., Black (D05 & Later)

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms to 300 ohms
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X18	ANTENNA-VHF, Fold-Down
EP37X55	ANTENNA TERMINAL BOARD-Complete (B02/B03/C03/C04)
EP37X68	ANTENNA TERMINAL BOARD-Complete (D05 & Later)
EP98X470	BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X432	FRONT-Cherry Woodgrain, Plastic (B02/B03/C03/C04)
EP99X446	FRONT-Cherry Woodgrain, Plastic (D05 & Later)
EP92X110	BRACKET-Upper Controls Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green (B02/B03/C03)
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green (C04 & Later)
EP4X402	DOOR-Keyboard Access, Black Lexan (B02/B03/C03/C04)
EP4X430	DOOR-Keyboard Access, Black Lexan (D05 & Later)
EP4X401	ESCUTCHEON-Upper Controls, Keyboard Cover, Lexan
EP89X436	GRILLE-Speaker, Cherry Woodgrain, Plastic
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X127	OVERLAY-Nameplate (B02/B03/C03/C04)
EP4X420	OVERLAY-Nameplate (D05 & Later)
EP3X37	SPRING-Access Door (2 Used)
EP2X534	SPRING-CRT Ground (2 Used)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

TELEVISION PRODUCT SERVICE, PORTSMOUTH, VIRGINIA

1/84 (SUPERSEDES 4/83)

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

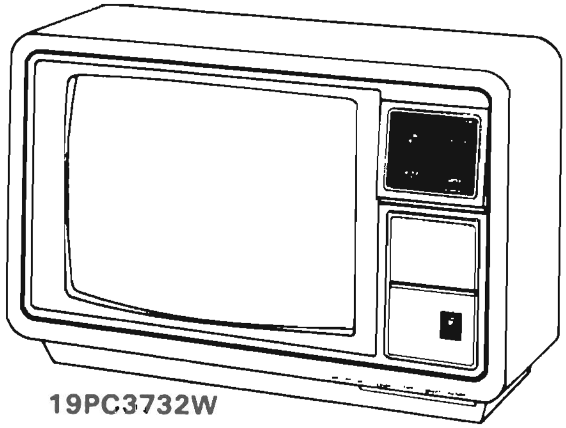
TELEVISION
PC CHASSIS
19PC3732WB01/B02/C02/C03

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-B/C
TUNING SYSTEM:	KMP112
PICTURE TUBE:	* 19VMZP22
UHF/VHF TUNER:	* EP93X415
SPEAKER: 16 ohm, 4"	EP95X25
KMP112 TUNER CONTROL BOARD:	EP93X414 (B01)
KMP112 TUNER CONTROL BOARD:	EP93X414 (B02 & Later)
USER'S MANUAL:	29-9206-82

Check Service Number before ordering parts.



19PC3732W

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
*EP49X474	R4194	ON/OFF, VOL.-50K ohm, 20%, SPST
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%
EP39X134	S4010	COLOR MONITOR SWITCH-Slide Type
EP39X146	SW5008	SWITCH-UHF Cable Select

KEYBOARD

PART NO.	DESCRIPTION
EP93X185	CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X338	ON/OFF, Vol., Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms to 300 ohms
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X18	ANTENNA-VHF, Fold-Down
EP37X55	ANTENNA TERMINAL BOARD-Complete
EP98X472	BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X434	FRONT-Cherry Woodgrain, Plastic
EP92X78	BRACKET-Keyboard Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green (B01/B02/C02)
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green (C03 & Later)
EP89X455	ESCUTCHEON-Primary Controls & Speaker, Plastic
EP89X291	GRILLE CLOTH-Speaker, Black
EP4X399	OVERLAY-Keyboard & Control Cover, Black, Plastic
EP4X127	OVERLAY-Nameplate
EP3X40	RETAINER-Channel Readout Display

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

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GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

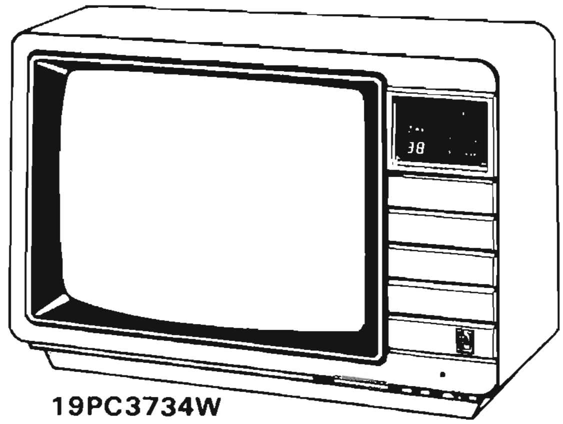
TELEVISION
PC CHASSIS
19PC3734WB01/B02/B03/C03/C04

Check Service Number before ordering parts.

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-B/C
TUNING SYSTEM:	KMP112
PICTURE TUBE:	* 19VMZP22
UHF/VHF TUNER:	* EP93X415
LIGHT DEPENDENT RESISTOR BD:	EP41X120
VIR MODULE:	EP93X381
SPEAKER: 16 ohm, 4"	EP95X25
KMP112 TUNER CONTROL BOARD:	EP93X414 (B01/B02)
KMP112 TUNER CONTROL BOARD:	EP93X446 (B03 & Later)
USER'S MANUAL:	29-9207-82



19PC3734W

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X472	RV15	VIR COLOR-Pref., 5K ohm, 20%
EP49X472	RV39	VIR TINT-Pref., 5K ohm, 20%
EP49X464	R214	SHARPENSS-1K ohm, 20%
*EP49X474	R4194	ON/OFF, VOL.-50K ohm, 20%, SPST
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%
EP39X53	SW4005	SWITCH-VIR, Slide Type
EP39X146	S5008	SWITCH-UHF Cable Select

KEYBOARD

PART NO.	DESCRIPTION
EP93X185	CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X335	VIR Color/Tint Pref., Black
EP43X338	ON/OFF, Vol., Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms to 300 ohms
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X18	ANTENNA-VHF, Fold-Down
EP37X55	ANTENNA TERMINAL BOARD-Complete
EP98X439	BACK-Black, Plastic (B01)
EP98X466	BACK-Black, Plastic (B02 & Later)
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X431	FRONT-Cherry Woodgrain, Plastic (B01)
EP99X433	FRONT-Cherry Woodgrain, Plastic (B02/B03/C03)
EP99X445	FRONT-Cherry Woodgrain, Plastic (C04 & Later)
EP92X107	BRACKET-Upper Controls Mounting, Plastic
EP2X542	BRACKET-VIR Board Support, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green (B01/B02/B03/C03)
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green (C04 & Later)
EP4X396	ESCUTCHEON-On/Off & Keyboard, Black, Lexan
EP89X479	GRILLE-Speaker, Black
EP2X157	LIGHT PIPE-Light Sensor, Plastic
EP4X345	OVERLAY-Secondary Controls Inlay, For Thumbwheel
EP4X127	OVERLAY-Nameplate
EP41X14	PILOT LIGHT-VIR, Red

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

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GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

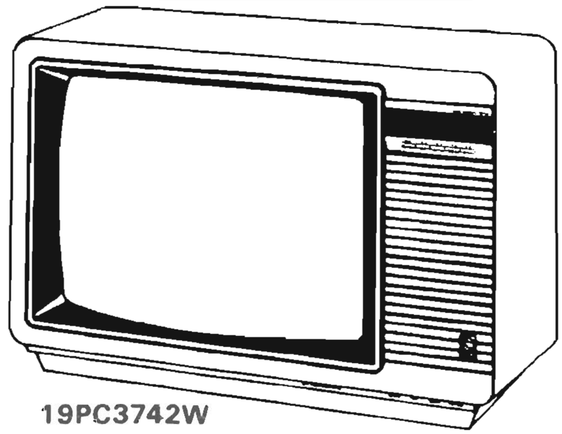
TELEVISION
PC CHASSIS
19PC3742WB01/B02/B03/C03/C04

Check Service Number before ordering parts.

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-B/C
TUNING SYSTEM:	LMP112
PICTURE TUBE:	* 19VHZP22
UHF/VHF TUNER:	* EP93X415
REMOTE CONTROL RECEIVER MODULE:	EP93X417 (B01/B02/B03/C03)
REMOTE CONTROL RECEIVER MODULE:	EP93X475 (C04 & Later)
REMOTE CONTROL TRANSMITTER:	EP62X164
SPEAKER: 16 ohm, 4"	EP95X25
LMP112 TUNER CONTROL BOARD:	EP93X413 (B01/B02/B03/C03)
LMP112 TUNER CONTROL BOARD:	EP93X413 (C04 & Later)
USER'S MANUAL:	29-9208-82



19PC3742W

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X464	R214	SHARPENSS-1K ohm, 20%
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%
EP39X134	S4010	COLOR MONITOR SWITCH-Slide Type
EP39X146	SW5008	SWITCH-UHF Cable Select

KEYBOARD

PART NO.	DESCRIPTION
EP62X161	ON/OFF, Vol., Channel Select (B01/B02/B03/C03
EP62X174	ON/OFF, Vol., Channel Select(C04 & Later)

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms to 300 ohms
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X18	ANTENNA-VHF, Fold-Down
EP37X55	ANTENNA TERMINAL BOARD-Complete
EP98X448	BACK-Black, Plastic (B01)
EP98X470	BACK-Black, Plastic (B02 & Later)
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X430	FRONT-Cherry Woodgrain, Plastic (B01)
EP99X432	FRONT-Cherry Woodgrain, Plastic (B02/B03/C03)
EP99X446	FRONT-Cherry Woodgrain, Plastic (C04 & Later)
EP92X106	BRACKET-Keyboard Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green (B01/B02/B03/C03)
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green (C04 & Later)
EP4X397	ESCUTCHEON-Upper Controls, Black, Le.an
EP89X480	GRILLE-Speaker, Cherry Woodgrain, Plastic
EP4X292	OVERLAY-Secondary Controls Inlay, Vinyl
EP4X127	OVERLAY-Nameplate
EP4X365	WINDOW-Snap-In, Black, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.

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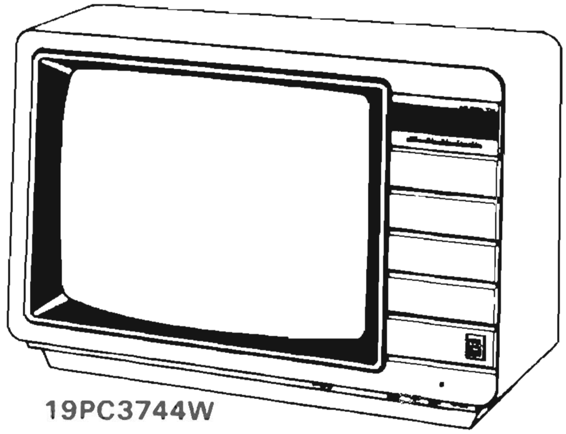
GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

TELEVISION
PC CHASSIS
19PC3744WB01/B02/B03/C03/C04

Check Service Number before ordering parts.



19PC3744W

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-B/C
TUNING SYSTEM:	LMP112
PICTURE TUBE:	* 19VMZP22
UHF/VHF TUNER:	* EP93X415
LIGHT DEPENDENT RESISTOR BD:	EP41X120
REMOTE CONTROL RECEIVER MODULE:	EP93X417 (B01/B02/B03/C03)
REMOTE CONTROL RECEIVER MODULE:	EP93X475 (C04 & Later)
REMOTE CONTROL TRANSMITTER:	EP62X164
VIR MODULE:	EP93X381
SPEAKER: 16 ohm, 4"	EP95X25
LMP112 TUNER CONTROL BOARD:	EP93X413 (B01/B02)
LMP112 TUNER CONTROL BOARD:	EP93X445 (B03 & Later)
USER'S MANUAL:	29-9209-82

* Replace picture tube only with original type number or factory approved substitute.

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CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X472	RV15	VIR COLOR-Pref., 5K ohm, 20%
EP49X472	RV39	VIR TINT-Pref., 5K ohm, 20%
EP49X464	R214	SHARPENSS-1K ohm, 20%
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%
EP49X352	R4360	COLOR-10K ohm, 20%
EP39X53	SW4005	SWITCH-VIR, Slide Type
EP39X146	S5008	SWITCH-UHF Cable Select

KEYBOARD

PART NO.	DESCRIPTION
EP62X161	ON/OFF, Vol., Channel Select (B01/B02/B03/C03)
EP62X174	ON/OFF, Vol., Channel Select (C04 & Later)

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X335	Color/Tint Pref., Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms to 300 ohms
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X18	ANTENNA-VHF, Fold-Down
EP37X55	ANTENNA TERMINAL BOARD-Complete
EP98X439	BACK-Black, Plastic (B01)
EP98X466	BACK-Black, Plastic (B02 & Later)
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X431	FRONT-Cherry Woodgrain, Plastic (B01)
EP99X433	FRONT-Cherry Woodgrain, Plastic (B02/B03/C03)
EP99X445	FRONT-Cherry Woodgrain, Plastic (C04 & Later)
EP2X542	BRACKET-VIR Board Support, Plastic
EP92X106	BRACKET-Keyboard Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green (B01/B02/B03/C03)
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green (C04 & Later)
EP4X398	ESCUTCHEON-Upper Controls, Black, Lexan
EP89X464	GRILLE-Speaker
EP2X157	LIGHT PIPE-Light Sensor, Plastic
EP4X345	OVERLAY-Secondary Controls Inlay, Vinyl
EP4X127	OVERLAY-Nameplate
EP41X14	PILOT LIGHT-VIR, Red
EP4X364	WINDOW-Snap-In, Black, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
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CHECK SERVICE NUMBERS BEFORE ORDERING PARTS
The characters in parenthesis ( ) after descriptions refer to the last three characters on the serial number label.

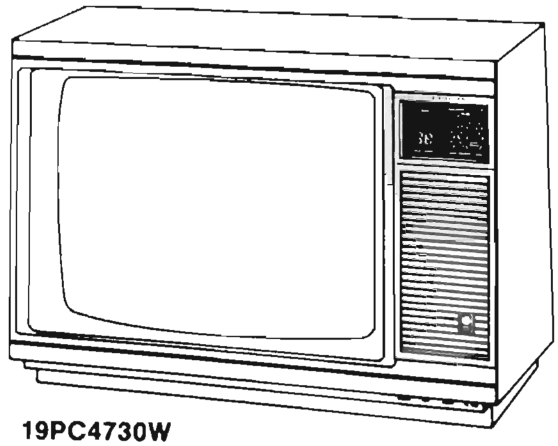
GENERAL ELECTRIC
TELEVISION
SERVICE INFORMATION

PC CHASSIS
19PC4730WD01/E01

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-D/E
TUNING SYSTEM:	KMP112
PICTURE TUBE:	* 19VMZP22
UHF/VHF TUNER:	* EP93X415
SPEAKER: 16 ohm, 4"	EP95X25
KMP112 TUNER CONTROL BOARD:	EP93X474
USER'S MANUAL:	29-9308-83



19PC4730W

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%
R4260	EP49X494	PICTURE-10K ohm, 20%
R4300	EP49X352	TINT-10K ohm 20%
R4301	EP49X352	COLOR-10K ohm, 20%
*SW4001	EP39X202	SWITCH-On/Off, Push-Push
S4010	EP39X134	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X181	Vol., & Channel Select

KNOBS

PART NO.	DESCRIPTION
EP43X445	ON/OFF, Black
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X508	CABINET BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord Retainer
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X609	BRACKET-Keyboard Mounting, Plastic
EP99X473	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X524	ESCUTCHEON-Upper Controls & Speaker, Black, Plastic
EP54X246	OVERLAY-Primary Controls, Black, Lexan
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X534	SPRING-CRT Ground (2 Used)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

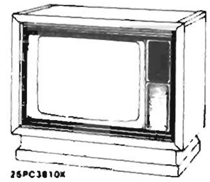
TELEVISION
PC CHASSIS
25PC2810KA02/B02
25PC2811LA02/B02
25PC2812PA02/B02

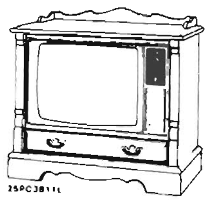
Check Service Number before ordering parts.

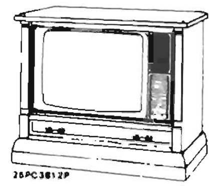
GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A/B
TUNING SYSTEM:	Direct
PICTURE TUBE:	* 25VGYP22
VHF TUNER:	* EP86X83
UHF TUNER:	* EP85X76
SPEAKER: 16 ohm, 4"	EP95X25







* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
*EP49X477	R4194	ON/OFF, VOL.-50K ohm, 30%
EP49X412	R4220	BRIGHTNESS-10K ohm, 20%
EP49X412	R4260	PICTURE-10K ohm, 20%
EP49X412	R4300	TINT-10K ohm, 20%
EP49X412	R4301	COLOR-10K ohm, 20%

KNOBS

PART NO.	DESCRIPTION
EP43X338	ON/OFF, Vol., White, W/Retainer
EP43X434	VHF Selector, Chrome, W/Retainer
EP43X437	VHF Fine Tune, Black, W/Retainer
EP43X432	VHF Readout, Black Plastic, W/Bushing
EP43X435	UHF Selector, Black, W/Retainer
EP43X436	UHF Fine Tune, Black, W/Retainer
EP43X439	UHF Readout, Black Plastic

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms Out, to 300 ohms In
EP37X59	ANTENNA TERMINAL BOARD-Complete
EP98X452	BACK-Hardboard (25PC2810K)
EP98X453	BACK-Hardboard (25PC2811L/25PC2812P)
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord Storage
*EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP2X82	RETAINER-Quick Lock (4 Used)
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X443	FRONT-Pecan Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP91X79	DOOR-Controls Cover
EP2X376	DOOR CATCH
EP2X555	DOOR CLIP-Fastener
EP2X554	DOOR HINGE-W/Rivet, Plastic
EP89X468	ESCUTCHEON-UHF/VHF, Bronze, Lexan
EP4X354	LENS-UHF & VHF Readout
EP4X414	OVERLAY-Secondary Controls
EP41X128	PILOT LIGHT-UHF & VHF Indicator
EU34X192	SOCKET-Pilot Light, UHF & VHF Indicator

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X53	PULL-Decorative (Order 2) (25PC2811L)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

[illegible]

GENERAL ELECTRIC

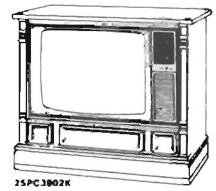
TELEVISION

SERVICE INFORMATION

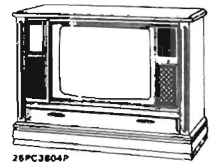
TELEVISION

PC CHASSIS
25PC3802KA01/A02/B02
25PC3804PA01/A02/B02
25PC3806MA01/A02/B02

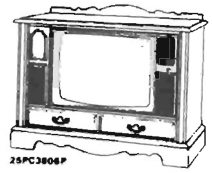
Check Service Number before ordering parts.



25PC3802K



25PC3804P



25PC3806P

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A/B
TUNING SYSTEM:	Direct
PICTURE TUBE:	* 25VGYP22
VHF TUNER:	* EP86X83
UHF TUNER:	* EP85X75 (A01)
UHF TUNER:	* EP85X76 (A02 & Later)
COLOR MONITOR MODULE:	EP93X382
SPEAKER: 16 ohm, 4"	EP95X25
USER'S MANUAL:	29-9212-82

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
*EP49X477	R4194	ON/OFF, VOL.-50K ohm, 30%
EP49X412	R4220	BRIGHTNESS-10K ohm, 20%
EP49X412	R4260	PICTURE-10K ohm, 20%
EP49X412	R4300	TINT-10K ohm, 20%
EP49X412	R4301	COLOR-10K ohm, 20%
EP39X134	S4010	COLOR MONITOR SWITCH-Slide Type

KNOBS

EP43X338	ON/OFF, Vol., White, W/Retainer
EP43X434	VHF Selector, Chrome, W/Retainer
EP43X437	VHF Fine Tune, Black, W/Retainer
EP43X435	UHF Selector, Black, W/Retainer
EP43X436	UHF Fine Tune, Black, W/Retainer
EP43X432	VHF Readout, Black, W/Bushing
EP43X433	UHF Readout, Black (A01)
EP43X439	UHF Readout, Black (A02)

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohm to 300 ohm, Antenna
EP37X59	ANTENNA TERMINAL BOARD-Complete
EP98X457	BACK-Hardboard (25PC3802K)
EP98X454	BACK-Hardboard (25PC3804P)
EP98X458	BACK-Hardboard (25PC3806M)
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord Storage
*EP66X19	CORD-Power Cord, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP2X82	RETAINER-Quick Lock (4 Used)
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X423	FRONT-Oak Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP2X542	BRACKET-Color Monitor Board Mounting, Plastic
EP2X376	DOOR CATCH
EP91X84	DOOR-Controls & Speaker Cover (25PC3802P)
EP91X81	DOOR-Controls & Speaker Cover (25PC3804P)
EP91X85	DOOR-Controls & Speaker Cover (25PC3806P)
EP2X555	DOOR FASTENER
EP2X554	DOOR HINGES-W/Rivets
EP89X468	ESCUTCHEON-UHF/VHF, Bronze, Lexan
EP4X354	LENS-UHF & VHF Readout
EP4X376	OVERLAY-Secondary Controls, Plastic
EP41X128	PILOT LIGHT-UHF/VHF Readout
EP2X554	RIVET-For Hinge, Plastic
EU34X192	SOCKET-Pilot Light
EP2X556	SPRING-CRT Mounting

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X53	PULL-Decorative, Order 2 (25PC3806M)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
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GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

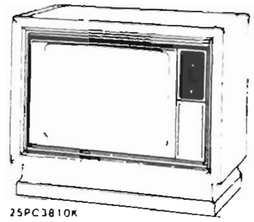
TELEVISION
PC-A CHASSIS
25PC3810KA01
25PC3811LA01
25PC3812PA01

Check Service Number before ordering parts.

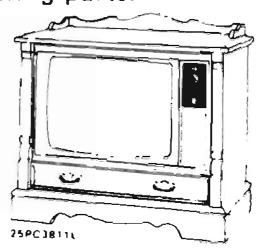
GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

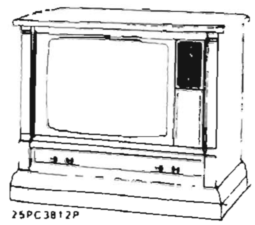
CHASSIS TYPE:	PC-A
TUNING SYSTEM:	ET91
PICTURE TUBE:	* 25VGYP22
UHF/VHF TUNER:	* EP93X415
COLOR MONITOR MODULE:	EP93X382
SPEAKER: 16 ohms, 4"	EP95X25
ET91 CONTROL BOARD ASSEMBLY	EP93X405
USER'S MANUAL:	29-9213-82



25PC3810K



25PC3811L



25PC3812P

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
*EP49X477	R4194	ON/OFF, VOL.-50K ohm, 30%
EP49X412	R4220	BRIGHTNESS-10K ohm, 20%
EP49X274	R4260	PICTURE-10K ohm, 20%
EP49X412	R4300	TINT-10K ohm, 20%
EP49X412	R4301	COLOR-10K ohm, 20%
EP39X134	S4010	COLOR MONITOR SWITCH-Slide Type

KNOBS

PART NO.	DESCRIPTION
EP43X414	CHANNEL SELECT-Black & Chrome, W/Retainer
EP43X338	ON/OFF, VOL., & PICTURE-Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 to 300 ohms, Antenna
EP37X65	ANTENNA TERMINAL BOARD-Complete
EP98X452	BACK-Hardboard (25PC3810K)
EP98X453	BACK-Hardboard (25PC3811L/25PC3812P)
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord Storage
*EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP2X82	RETAINER-Quick Lock (4 Used)
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X420	FRONT-Pecan, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP2X542	BRACKET-Color Monitor Board Mounting, Plastic
EP41X137	CHANNEL NUMBER READOUT DISPLAY
EP91X79	DOOR-Controls Cover & Grille, Pecan
EP2X376	DOOR-Catch
EP2X555	DOOR-Fastener
EP89X465	ESCUTCHEON-Upper Control, Lexan
EP2X554	HINGES-Door W/Rivets
EP4X375	OVERLAY-Secondary Controls, Plastic
EP4X127	OVERLAY-Nameplate
EP2X554	RIVET-Plastic, For Hinge
EP1X33	RIVET-Plastic,

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X53	PULL-Decorative, Order Two (25PC3811L)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
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TELEVISION PRODUCT SERVICE, PORTSMOUTH, VIRGINIA
4/83, (Supersedes 5/82)

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

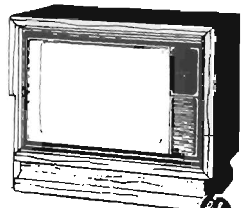
TELEVISION
PC CHASSIS
25PC3820KA01/B01/B02
25PC3821LA01/B01/B02
25PC3822PA01/B01/B02

Check Service Number before ordering parts.

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

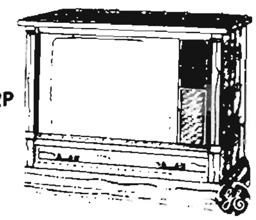
CHASSIS TYPE:	PC-A/B
TUNING SYSTEM:	SET112
PICTURE TUBE:	* 25VGYP22
UHF/VHF TUNER:	* EP93X415
SPEAKER: 16 ohm, 4"	EP95X25
SET112 TUNER CONTROL BOARD:	EP93X418 (A01/B01)
SET112 TUNER CONTROL BOARD:	EP93X451 (B02 & Later)



25PC3820K



25PC3821L



25PC3822P

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X412	R4220	BRIGHTNESS-10K ohm, 20%
EP49X412	R4260	PICTURE-10K ohm, 20%
EP49X412	R4300	TINT-10K ohm, 20%
EP49X412	R4301	COLOR-10K ohm, 20%
*EP39X2~~03~~ 202	S4000	SWITCH-On/Off, Push-Push
EP39X134	S4010	COLOR MONITOR SWITCH-Slide Type
EP39X146	S5008	SWITCH-UHF Cable Select

KEYBOARD

PART NO.	DESCRIPTION
EP62X166	Vol., & Channel Select

KNOB

PART NO.	DESCRIPTION
EP43X443	ON/OFF, Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms to 300 ohms
EP37X64	ANTENNA TERMINAL BOARD-Complete
EP98X452	BACK-Hardboard (25PC3820K)
EP98X453	BACK-Hardboard (25PC3821L/25PC3822P)
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord
*EP56X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP2X82	RETAINER-Quick Lock (4 Used)
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X442	FRONT-Pecan Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X79	Door-Grille
EP4X413	DOOR-Keyboard Access
EP2X376	DOOR CATCH
EP2X555	DOOR HANDLE
EP2X554	DOOR HINGE-Plastic
EP89X483	ESCUTCHEON-Upper Controls, Pecan Woodgrain, Lexan
EP4X376	OVERLAY-Secondary Controls, Black, Plastic
EP1X33	RIVET-Plastic
EP3X37	SPRING-Access Door (2)
EP2X556	SPRING-CRT Ground (2)

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X53	KNOB-Decorative Order Two (25PC3821L)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

[illegible] SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED [illegible] SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED [illegible] REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. [illegible] REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK [illegible]

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

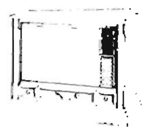
TELEVISION
PC CHASSIS
25PC3835KA01/A02/B02/B03
25PC3836LA01/A02/B02/B03
25PC3837KA01/A02/B02/B03

Check Service Number before ordering parts.

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A/B
TUNING SYSTEM:	KMPI12
PICTURE TUBE:	* 25VGYP22
UHF/VHF TUNER:	* EP93X415
LIGHT DEPENDENT RESISTOR BD:	EP41X120
VIR MODULE:	EP93X390
SPEAKER: 16 ohm, 4"	EP95X25
KMP112 CONTROL BOARD:	EP93X414 (A01)
KMP112 CONTROL BOARD:	EP93X446 (A02 & Later)
USER'S MANUAL:	29-9215-82



25PC3837K



25PC3836L



25PC3835K

Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
*EP49X477	R4194	ON/OFF, VOL.-50K ohm, 30%
EP49X412	R4220	BRIGHTNESS-10K ohm, 20%
EP49X412	R4260	PICTURE-10K ohm, 20%
EP49X412	R4300	TINT-10K ohm, 20%
EP49X412	R4301	COLOR-10K ohm, 20%
EP49X413	R4315	COLOR-Color Pref., 5K ohm, 20%
EP49X413	R4339	TINT-Tint Pref., 5K ohm, 20%

KEYBOARD

PART NO.	DESCRIPTION
EP93X185	CHANNEL SELECT

KNOBS

EP69X32	Color/Tint Pref., Shaft
EP43X338	ON/OFF, Vol.

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-Antenna, 75 to 300 Ohms
EP37X64	ANTENNA TERMINAL BOARD-Complete
EP98X449	BACK-Hardboard (25PC3835KA01)
EP98X450	BACK-Hardboard (25PC3836LA01)
EP98X451	BACK-Hardboard (25PC3837KA01)
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord Retainer
*EP66X19	CORD-AC Power, Polarized
EP4X159	COVER-Service Information, Black, Plastic
EP2X82	RETAINER-Quick Lock (4 Used)
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

EP99X419	FRONT-Oak, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP41X135	CHANNEL NUMBER READOUT DISPLAY (A01/A02/B02)
EP41X139	CHANNEL NUMBER READOUT DISPLAY (B03 & Later)
EP91X76	DOOR-W/Grille Cloth (25PC3836L)
EP91X77	DOOR-W/Grille Cloth (25PC3837K)
EP2X376	DOOR CATCH
EP89X429	ESCUTCHEON-Upper Controls, Oak, Plastic
EP2X554	HINGES-W/Plastic Rivet
EP2X157	LIGHT PIPE-Light Sensor
EP4X374	OVERLAY-Secondary Controls, Black, Plastic
EP41X14	PILOT LIGHT-VIR, Red
EP2X236	RETAINER-LED Holder
EP2X554	RIVET-W/Hinge, Plastic

MISCELLANEOUS

EP68X7	CASTER-W/Socket
EP4X182	KNOB-Decorative, Order 2 (25PC3836L/25PC3837K)
EP4X193	PULL-Decorative, (25PC3836L/25PC3837K)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

TELEVISION PRODUCT SERVICE, PORTSMOUTH, VIRGINIA
4/83, (Supersedes 5/82)

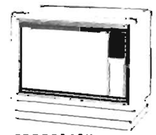
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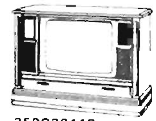
TELEVISION

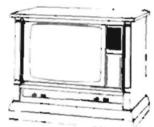
SERVICE INFORMATION

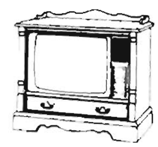
TELEVISION
PC CHASSIS
25PC3840KA01/A02/B02/B03
25PC3841LA01/A02/B02/B03
25PC3842PA01/A02/B02/B03
25PC3844PA01/A02/B02/B03

Check Service Number before ordering parts.


25PC3840K


25PC3844P


25PC3842P


25PC3841L

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A/B
TUNING SYSTEM:	LMP112
PICTURE TUBE:	* 25VGYP22
UHF/VHF TUNER:	* EP93X415
COLOR MONITOR MODULE:	EP93X382
REMOTE CONTROL RECEIVER MODULE:	EP93X417 (A01/A02/B02)
REMOTE CONTROL RECEIVER MODULE:	EP93X475 (B03 & Later)
REMOTE CONTROL TRANSMITTER:	EP62X164
SPEAKER: 16 ohm, 4"	EP95X25
LMP112 CONTROL CIRCUIT BOARD:	EP93X413 (A01)
LMP112 CONTROL CIRCUIT BOARD:	EP93X445 (A02 & Later)
USER'S MANUAL:	29-9216-82

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X412	R4220	BRIGHTNESS-10K ohm, 20%
EP49X412	R4260	PICTURE-10K ohm, 20%
EP49X412	R4300	TINT-10K ohm, 20%
EP49X412	R4301	COLOR-10K ohm, 20%
EP39X134	S4010	COLOR MONITOR SWITCH-Slide Type
EP39X146	S5008	UHF CABLE SWITCH-Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X161	ON/OFF, Vol., Channel Select (A01/A02/B02)
EP62X174	ON/OFF, Vol., Channel Select (B03 & Later)

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-73 to 300 ohms, Antenna
EP37X64	ANTENNA TERMINAL BOARD-Complete
EP98X452	BACK-Hardboard (25PC3840K)
EP98X453	BACK-Hardboard (25PC3842P/25PC3841L)
EP98X454	BACK-Hardboard (25PC3844P)
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X149	COVER-Service Information, Black, Plastic
EP2X82	RETAINER-Quick Lock (4 Used)
EP2X540	RETAINER-Power Cord
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X421	FRONT-OAK Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP2X542	BRACKET-Color Monitor Board Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY (A01/A02/B02)
EP41X139	CHANNEL NUMBER READOUT DISPLAY (B03 & Later)
EP2X376	DOOR CATCH
EP91X80	DOOR-Controls Cover & Speaker Grille (25PC3840K/25PC3841L/25PC3842P)
EP91X81	DOOR-Controls Cover & Speaker Grille (25PC3844P)
EP2X555	DOOR FASTENER-(25PC3840K/41K/42P)
EP2X554	DOOR HINGE-W/Plastic Rivet
EP89X466	ESCUTCHEON-Upper Controls, Oak, Lexan
EP4X376	OVERLAY-Secondary Control, Black, Plastic
EP4X377	OVERLAY-LMP Inlay, Plastic
EP4X127	OVERLAY-Nameplate
EP1X33	RIVET-Plastic

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X53	KNOB-Decorative, Order 2 (25PC3841L)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

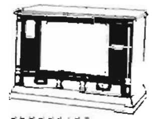
GENERAL ELECTRIC

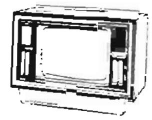
TELEVISION

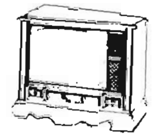
SERVICE INFORMATION

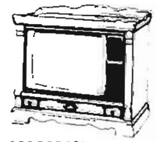
PC CHASSIS
25PC3845KA01/A02/B02/B03
25PC3846LA01/A02/B02/B03
25PC3847KA01/A02/B02/B03
25PC3848KA01/A02/B02/B03
25PC3849PA01/A02/B02/B03

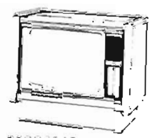
Check Service Number before ordering parts.


25PC3849P


25PC3848K


25PC3847K


25PC3846L


25PC3845K

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A/B
TUNING SYSTEM:	LMP112
PICTURE TUBE:	* 25VGYP22
UHF/VHF TUNER:	* EP93X415
LIGHT DEPENDENT RESISTOR BD:	EP41X120
REMOTE CONTROL RECEIVER MODULE:	EP93X417 (A01/A02/B02)
REMOTE CONTROL RECEIVER MODULE:	EP93X475 (B03 & Later)
REMOTE CONTROL TRANSMITTER:	EP62X164
VIR MODULE:	EP93X390
SPEAKER: 16 ohm, 4"	EP95X25 25PC3845K/46L/47K
SPEAKER: 32 ohm, 4" (2 USED)	EP95X14 25PC3848K/49P
LMP112 CONTROL CIRCUIT BOARD:	EP93X413 (A01)
LMP112 CONTROL CIRCUIT BOARD	EP93X445 (A02 & Later)
USER'S MANUAL:	29-9217-82

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [ ] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X412	R4220	BRIGHTNESS-10K ohm, 20%
EP49X412	R4260	PICTURE-10K ohm, 20%
EP49X412	R4300	TINT-10K ohm, 20%
EP49X412	R4301	COLOR-10K ohm, 20%
EP49X413	R4315	COLOR-VIR Color Pref., 5K ohm 20%
EP49X413	R4339	TINT-VIR Tint Pref., 5K ohm, 20%
EP39X146	S5008	UHF CABLE SWITCH-Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X161	ON/OFF, VOL., CHANNEL SELECT (A01/A02/B02)
EP62X174	ON/OFF, VOL, CHANNEL SELECT (B03 & Later)

KNOBS

EP69X32	Color/Tint Pref., Shaft

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 To 300 Ohms, Antenna
EP37X64	ANTENNA TERMINAL BOARD-Complete
EP98X449	BACK-Hardboard (25PC3845K)
EP98X450	BACK-Hardboard (25PC3846L)
EP98X451	BACK-Hardboard (25PC3847K)
EP98X455	BACK-Hardboard (25PC3848K)
EP98X456	BACK-Hardboard (25PC3849P)
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP2X82	RETAINER-Quick Lock (4 Used)
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

EP99X422	FRONT-Oak Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP2X542	BRACKET-VIR Board Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY (A01/A02/B02)
EP41X139	CHANNEL NUMBER READOUT DISPLAY (B03 & Later)
EP91X78	DOOR-Controls Cover & Speaker Grille (25PC3845K)
EP91X76	DOOR-Controls Cover & Speaker Grille (25PC3846L)
EP91X77	DOOR-Controls Cover & Speaker Grille (25PC3847K)
EP91X82	DOOR-Controls Cover & Speaker Grille (25PC3848K)
EP91X83	DOOR-Controls Cover & Speaker Grille (25PC3849P)
EP2X376	DOOR CATCH
EP2X554	DOOR HINGE-W/Plastic Rivet
EP89X467	ESCUTCHEON-Upper Controls, Oak, Lexan
EP2X157	LIGHT PIPE-Light Sensor
EP4X374	OVERLAY-Secondary Controls, Black, Plastic
EP4X378	OVERLAY-LMP Inlay, Black, Plastic
EP4X127	OVERLAY-Nameplate
EP41X14	PILOT LIGHT-VIR, Red
EP1X33	RIVET-Plastic

MISCELLANEOUS

EP68X7	CASTER-W/Socket
EP4X182	KNOB-Decorative, Order 2 (25PC3846L/25PC3847K)
EP4X193	PULL-Decorative (25PC3846L/25PC3847K)

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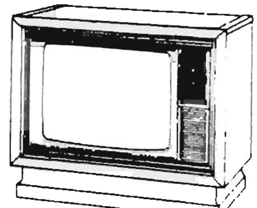
TELEVISION PRODUCT SERVICE, PORTSMOUTH, VIRGINIA
4/83, (Supersedes 5/82)

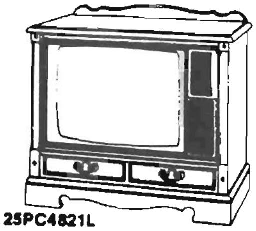
CHECK SERVICE NUMBERS BEFORE ORDERING PARTS
The characters in parenthesis ( ) after descriptions refer to the last three characters on the serial number label.

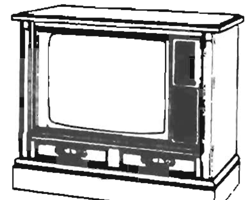
GENERAL ELECTRIC
TELEVISION
SERVICE INFORMATION

PC CHASSIS
25PC4820KC01/D01
25PC4821LC01/D01
25PC4822KC01/D01

GENERAL INFORMATION


25PC4820K


25PC4821L


25PC4822K

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-C/D
TUNING SYSTEM:	SET112
PICTURE TUBE:	* 25VGYP22
UHF/VHF TUNER:	* EP93X415
SPEAKER: 16 ohm, 4 X 4"	EP95X25
SET112 TUNER CONTROL BOARD:	EP93X473
USER'S MANUAL:	29-9314-83

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%
R4260	EP49X493	PICTURE-10K ohm, 20%
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
*S4000	EP39X202	SWITCH-ON/OFF, Push-Push
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X177	VOL., & CHANNEL SELECT

KNOB

PART NO.	DESCRIPTION
EP43X446	ON/OFF, Black, Lexan

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP98X489	BACK-Hardboard (25PC4820K)
EP98X490	BACK-Hardboard (25PM4821K)
EP98X491	BACK-Hardboard (25PC4822K)
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X460	FRONT-Oak Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X413	DOOR-Access, Controls
EP91X80	DOOR-Grille
EP2X376	DOOR CATCH
EP2X555	DOOR HANDLE
EP2X554	DOOR HINGE
EP89X506	ESCUTCHEON-Upper Controls, Pecan, Plastic
EP4X376	OVERLAY-Secondary Controls, Black
EP1X33	RIVET-Plastic, Door Hinge
EP3X37	SPRING-Access Door (2 Used)

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket

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CHECK SERVICE NUMBERS BEFORE ORDERING PARTS
The characters in parenthesis ( ) after descriptions refer to the last three characters on the serial number label.

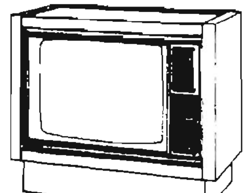
GENERAL ELECTRIC
TELEVISION
SERVICE INFORMATION

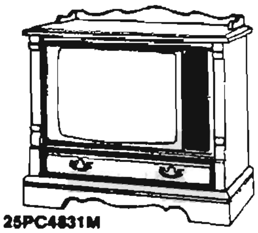
PC CHASSIS
25PC4830KC01/D01
25PC4831MC01/D01
25PC4832PC01/D01

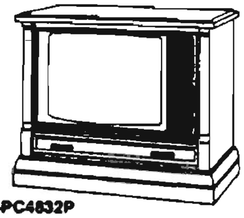
GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-C/D
TUNING SYSTEM:	KMPV112
PICTURE TUBE:	* 25VGYP22
UHF/VHF TUNER:	* EP93X415
SPEAKER: 16 ohm, 4 X 4"	EP95X25
KMPV112 TUNER CONTROL BOARD:	EP93X474
USER'S MANUAL:	29-9315-83


25PC4830K


25PC4831M


25PC4832P

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%
R4260	EP49X493	PICTURE-10K ohm, 20%
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
*S4000	EP39X202	SWITCH-On/Off, Push-Push
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X181	Vol., & Channel Select

KNOB

PART NO.	DESCRIPTION
EP43X447	ON/OFF, Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP98X485	BACK-Hardboard (25PC4830K)
EP98X484	BACK-Hardboard (25PC4831M/25PC4832P)
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X461	FRONT-Oak Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X80	DOOR-Grille
EP2X376	DOOR CATCH
EP2X555	DOOR HANDLE
EP2X554	DOOR HINGE
EP89X509	ESCUTCHEON-Upper Controls, Oak
EP4X376	OVERLAY-Secondary Controls, Black
EP1X33	RIVET-Plastic, Hinge

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X53	PULL-Decorative (Order 2) (25PC4831M)
EP4X181	PULL-Decorative (Order 2) (25PC4832P)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (#) [illegible] A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT [illegible] PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (#) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE [illegible] FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

CHECK SERVICE NUMBERS BEFORE ORDERING PARTS
The characters in parenthesis ( ) after descriptions refer to the last three characters on the serial number label.

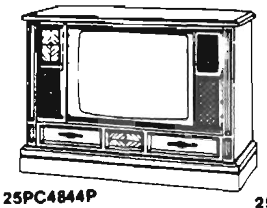
GENERAL ELECTRIC
TELEVISION
SERVICE INFORMATION

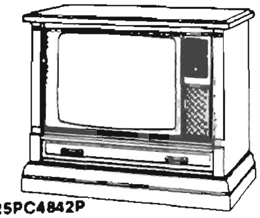
PC CHASSIS
25PC4840KC01/D01
25PC4841LC01/D01
25PC4842PC01/D01
25PC4844PC01/D01

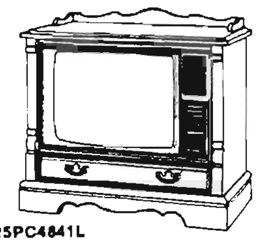
GENERAL INFORMATION

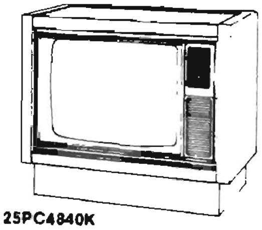
CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-C/D
TUNING SYSTEM:	LMP112
PICTURE TUBE:	* 25VGYP22
UHF/VHF TUNER:	* EP93X415
REMOTE CONTROL RECEIVER MODULE:	EP93X482
REMOTE CONTROL TRANSMITTER:	EP62X164
SPEAKER: 16 ohm, 4"	EP95X25
LMP112 TUNER CONTROL BOARD:	EP93X470
USER'S MANUAL:	29-9317-83


25PC4844P


25PC4842P


25PC4841L


25PC4840K

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%
R4260	EP49X493	PICTURE-10K ohm, 20%
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP98X485	BACK-Hardboard (25PC4840K)
EP98X484	BACK-Hardboard (25PC4841L/25P4842P)
EP98X486	BACK-Hardboard (25PC4844P)
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X459	FRONT-Oak Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X80	DOOR-Grille (25PC4840K)
EP91X100	DOOR-Controls & Speaker Cover (25PC4841L)
EP91X101	DOOR-Controls & Speaker Cover (25PC4842P)
EP91X102	DOOR-Controls & Speaker Cover (25PC4844P)
EP2X376	DOOR CATCH
EP2X555	DOOR HANDLE-(25PC4840K)
EP2X554	DOOR HINGE-2 Used
EP89X501	ESCUTCHEON-Upper Controls, Oak, Plastic
EP4X376	OVERLAY-Secondary Controls, Black
EP4X377	OVERLAY-LMP112 Inlay, Black, Plastic
EP4X420	OVERLAY-Nameplate
EP1X33	RIVET-Plastic

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X181	PULL-Decorative (Order 2) (25PC4842P/25PC4844P)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

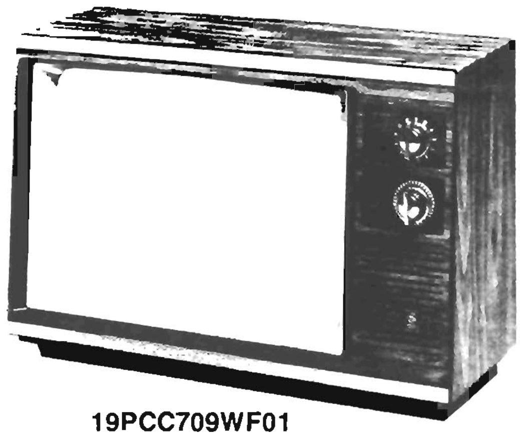
GENERAL ELECTRIC

VIDEO PRODUCTS BUSINESS DIVISON
PORTSMOUTH, VA 23705

PC CHASSIS
19PCC709WF01

SERVICE INFORMATION

PC CHASSIS MODEL PAGE



19PCC709WF01

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	Direct
PICTURE TUBE:	★A48ACE26X
VHF TUNER:	★EP86X88
UHF TUNER:	★EP85X76
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL:	29-9223-84

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%
R4260	EP49X494	PICTURE-10K ohm, 20%
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198	EP49X475	VOL. LIMITER-50K ohm, 20%

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X363	FIDDLE FREE KNOB-Fine Tune, Black
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
	EP43X338	ON/OFF, VOL.-Black, W/Retainer
	EP43X381	VHF SELECTOR-Black, W/Retainer
	EP43X388	VHF FINE TUNE-Black, W/Retainer
	EP43X359	UHF SELECTOR-Black, W/Retainer
	EP43X361	UHF FINE TUNE-Black, W/Retainer
	EP43X442	UHF INDICATOR-Black, W/Retainer

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP37X56	ANTENNA TERMINAL BOARD-Complete
	EP98X543	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP99X517	CABINET FRONT-Cherry Woodgrain, Plastic
	EP89X450	ESCUTCHEON-UHF/VHF & Speaker, Cherry Woodgrain
	EP4X448	FIDDLE FREE COVER-Thumbwheel
	EP4X358	OVERLAY-UHF & VHF Readout, Plastic
	EP4X291	OVERLAY-Secondary Controls Inlay
	EP4X420	OVERLAY-Nameplate
	EP2X534	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

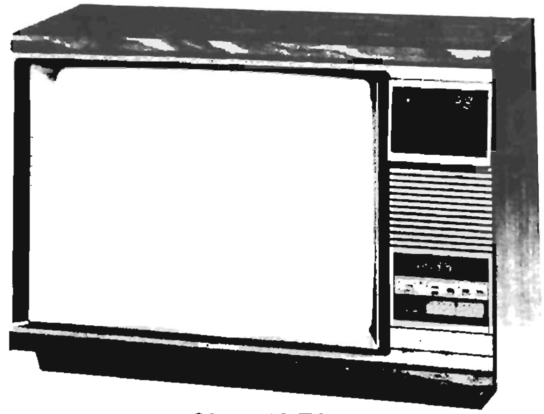
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	KMPS3-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539
BATTARY:	EP58X3
POWER SUPPLY/ RADIO/CLOCK/KEYBOARD:	EP93X549
RADIO CIRCUIT BOARD: W/Vol Limiter	EP93X547
RELAY CIRCUIT BOARD:	EP93X548
SPEAKER: 32 ohm, 4"	EP95X14
KMPS3-112 TUNER CONTROL BOARD:	EP93X530



19PCL739WF01

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198/ R5199	EP49X503	VOLUME LIMITER-T.V., 25K ohm, 30% Radio, 100K ohm, 30%
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast, Push
KSW05	EP39X206	SWITCH-Clock Slow, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
S1	EP39X212	SWITCH-AM/FM, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X203	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
	EP47X64	TV/RADIO, & ALARM OFF/ON
	EP43X449	RADIO-Volume, Black, W/Retainer
	EP43X450	RADIO-Tuning, Black
	EP43X65	SET/FAST/SLOW/TIME SET

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP37X72	ANTENNA TERMINAL BOARD-Complete
	EP98X543	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic

(Cont.)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP92X122	BRACKET-Radio Support, Plastic
	EP92X134	BRACKET-Keyboard Mounting, Plastic
	EP99X512	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X147	CLOCK TIMER READOUT DISPLAY
	EP4X495	DIAL-AM/FM Radio
	EP89X574	ESCUTCHEON-Upper Controls, Speaker, & Radio Black, Plastic
	EP4X448	FIDDLE FREE COVER-Thumbwheel, Black, Plastic
	EP4X498	FIDDLE FREE COVER-Keyboard, Black, Lexan
	EP2X612	GEAR-Radio Tuning
	EP4X291	OVERLAY-TV, Secondary Controls Inlay
	EP4X420	OVERLAY-Nameplate
	EP2X613	POINTER-Radio Dial
	EP2X534	SPRING-CRT Ground
	EP41X140	TV CHANNEL NUMBER READOUT DISPLAY-Green

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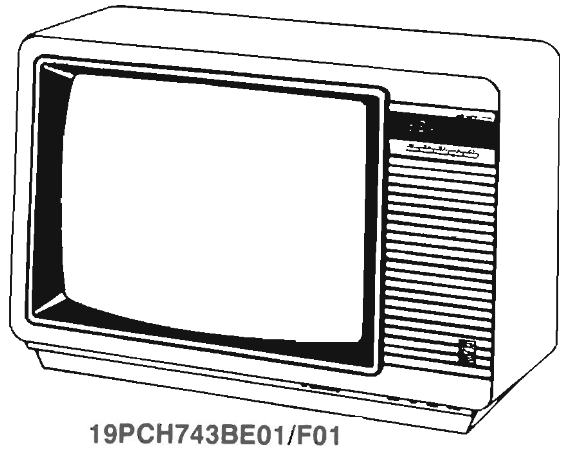
PC CHASSIS
19PCH743BE01/F01

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-E/F
TUNING SYSTEM:	LMP1-112
PICTURE TUBE:	★19VMZP22 (E01)
PICTURE TUBE:	★A48ACE26X (F01)
UHF/VHF TUNER:	★EP93X539
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X480
REMOTE CONTROL TRANSMITTER:	EP62X164
SPEAKER: 16 ohm, 4"	EP95X25 (E01)
SPEAKER: 32 ohm, 4"	EP95X14 (F01)
LMP1-112 TUNER CONTROL BOARD:	EP93X538



19PCH743BE01/F01

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198	EP49X475	VOL LIMITER-50K ohm, 20%
SW5008	EP49X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP37X67	ANTENNA TERMINAL BOARD-Complete
	EP98X477	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP92X106	BRACKET-Keyboard Mounting, Plastic
	EP99X508	CABINET FRONT-Beige, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP89X554	ESCUTCHEON-LMP1-112 Tuning, Plastic
	EP4X448	FIDDLE FREE PANEL-Thumbwheel
	EP89X505	GRILLE-Speaker
	EP4X291	OVERLAY-Secondary Controls, Inlay
	EP4X420	OVERLAY-Nameplate
	EP2X534	SPRING-CRT Ground
	EP4X365	WINDOW-Chennel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

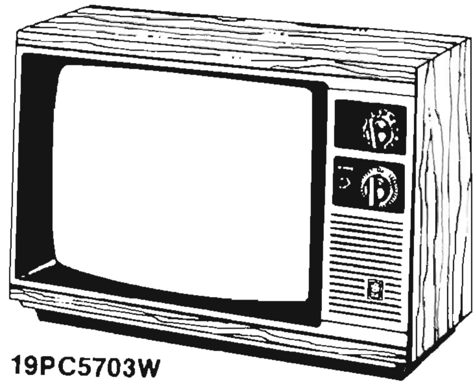
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GENERAL ELECTRIC

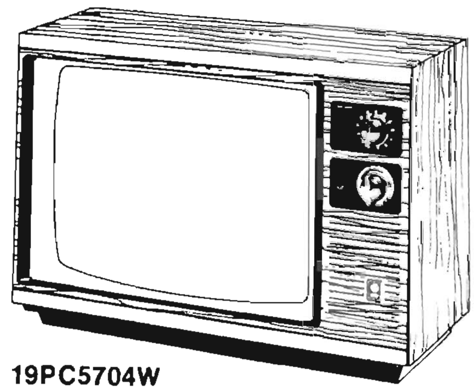
VIDEO PRODUCTS BUSINESS DIVISON
PORTSMOUTH, VA 23705

PC CHASSIS
19PC5703WF01
19PC5704WF01

SERVICE INFORMATION **PC CHASSIS MODEL PAGE**



19PC5703W



19PC5704W

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	Direct
PICTURE TUBE:	★A48ACE26X
VHF TUNER:	★EP86X88
UHF TUNER:	★EP85X76
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL:	29-9201-84

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type (19PC5704W/19PC5707W)
SW5008	EP39X146	SWITCH-Cable Select,

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
	EP43X338	ON/OFF, VOL.-Black, W/Retainer
	EP43X381	VHF SELECTOR-Black, W/Retainer
	EP43X388	VHF FINE TUNE-Black, W/Retainer
	EP43X359	UHF SELECTOR-Black, W/Retainer
	EP43X361	UHF FINE TUNE-Black, W/Retainer
	EP43X442	UHF INDICATOR-Black, W/Retainer

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X53	ANTENNA TERMINAL BOARD-Complete
	EP2X582	BRACKET-VHF Antenna Mounting, Plastic
	EP98X508	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic
	EP2X635	RETAINER-Push Fastener (2 Used)
	EP1X33	RIVET-Plastic

(Cont.)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP99X509	CABINET FRONT-Cherry Woodgrain, Plastic (19PC5703W)
	EP99X510	CABINET FRONT-Cherry Woodgrain, Plastic (19PC5704W)
	EP99X522	CABINET FRONT-Rosewood Woodgrain, Plastic (19PC5707W)
	EP89X572	ESCUTCHEON-UHF/VHF & Speaker, Black, Plastic (19PC5703W)
	EP89X450	ESCUTCHEON-UHF/VHF & Speaker, Cherry Woodgrain, Plastic (19PC5704W)
	EP89X582	ESCUTCHEON-UHF/VHF & Speaker, Rosewood Woodgrain, Plastic (19PC5707W)
	EP4X497	OVERLAY-UHF Direct Readout, Black, Plastic (19PC5703W/04W)
	EP4X350	OVERLAY-VHF Direct Readout, Black, Plastic (19PC5703W/04W)
	EP4X516	OVERLAY-UHF/VHF Direct Readout, Black, Plastic (19PC5707W)
	EP4X291	OVERLAY-Secondary Controls Inlay (19PC5703W)
	EP4X292	OVERLAY-Secondary Controls Inlay (19PC5704W)
	EP4X517	OVERLAY-Secondary Controls Inlay (19PC5707W)
	EP4X420	OVERLAY-Nameplate
	EP41X14	PILOT LIGHT-Bilingual Indicator, Red, Y4001 (19PC5707W)
	EP2X534	SPRING-CRT Ground

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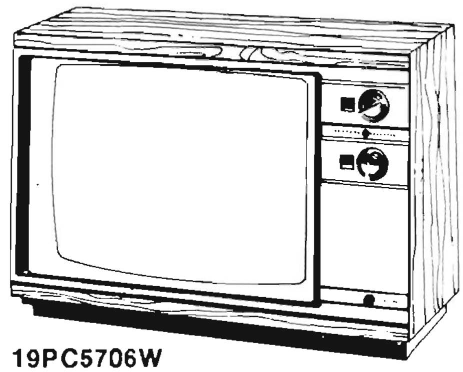
PC CHASSIS
19PC5706WF01

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	Direct
PICTURE TUBE:	★ A48ACE26X
VHF TUNER:	★ EP86X88
UHF TUNER:	★ EP85X76
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL:	29-9201-84



19PC5706W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★R4194	EP49X473	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
	EP43X338	ON/OFF, VOL.-Black, W/Retainer
	EP43X434	VHF SELECTOR-Black, W/Retainer
	EP43X437	VHF FINE TUNE-Black, W/Retainer
	EP43X432	VHF DISC READOUT-Black, W/Retainer
	EP43X435	UHF SELECTOR-Black, W/Retainer
	EP43X436	UHF FINE TUNE-Black, W/Retainer
	EP43X439	UHF DISC READOUT-Black, W/Retainer

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X53	ANTENNA TERMINAL BOARD-Complete
	EP2X582	BRACKET-VHF Antenna Mounting, Plastic
	EP98X508	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic
	EP2X635	RETAINER-Push Fastener (2 Used)
	EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP99X511	CABINET FRONT-Cherry Woodgrain, Plastic
	EP89X573	ESCUTCHEON-Primary Controls, Plastic
	EP89X454	GRILLE-Speaker
	EP4X354	LENS-UHF & VHF Readout, Plastic
	EP4X354	OVERLAY-UHF/VHF, Silver, Plastic
	EP4X292	OVERLAY-Secondary Controls Inlay
	EP41X128	PILOT LIGHT-UHF & VHF Indicator
	EP2X534	SPRING-CRT Ground

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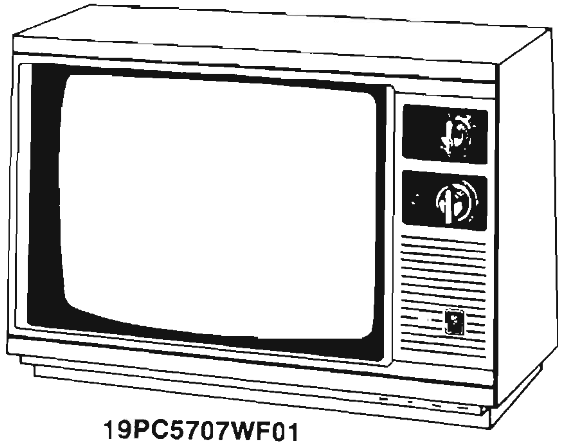
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PORTSMOUTH, VA 23705

PC CHASSIS
19PC5707WF01

SERVICE INFORMATION — PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	Direct
PICTURE TUBE:	★A48ACE26X
VHF TUNER:	★EP86X88
UHF TUNER:	★EP85X76
BILINGUAL DECODER CIRCUIT BOARD:	EP93X555
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL:	29-9247-84



19PC5707WF01

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
SW1	EP39X53	SWITCH-Bilingual Defeat, Slide Type
S4010	EP39X53	SWITCH-Color Monitor, Slide Type

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
	EP43X338	ON/OFF, VOL.-Black, W/Retainer
	EP43X381	VHF SELECTOR-Black, W/Retainer
	EP43X388	VHF FINE TUNE-Black, W/Retainer
	EP43X359	UHF SELECTOR-Black, W/Retainer
	EP43X361	UHF FINE TUNE-Black, W/Retainer
	EP43X442	UHF INDICATOR-Black, W/Retainer

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X53	ANTENNA TERMINAL BOARD-Complete
	EP2X582	BRACKET-VHF Antenna Mounting, Plastic
	EP98X508	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic
	EP2X635	RETAINER-Push Fastener (2 Used)
	EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP99X522	CABINET FRONT-Rosewood Woodgrain, Plastic
	EP89X582	ESCUTCHEON-UHF/VHF & Speaker, Rosewood, Plastic
	EP4X516	OVERLAY-UHF & VHF Direct Readout
	EP4X517	OVERLAY-Secondary Controls, Black, Plastic
	EP4X420	OVERLAY-Nameplate
	EP41X41	PILOT LIGHT-Bilingual Indicator, Red
	EP41X14	PILOT LIGHT-VIR, Red, Y4001
	EP2X534	SPRING-CRT Ground

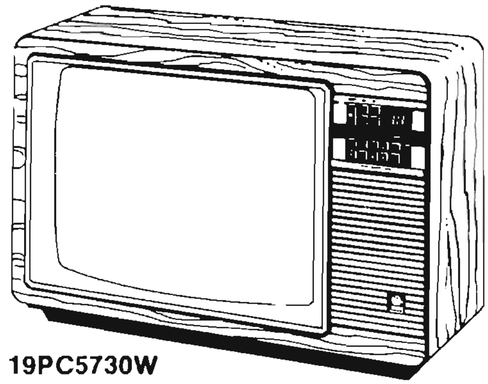
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CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	KMPS112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539
SPEAKER: 32 ohm, 4"	EP95X14
KMPS112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9203-84



19PC5730W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-Detent, 10K ohm, 20%
R4260	EP49X494	PICTURE-Detent, 10K ohm, 20%
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4010	EP49X134	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X190	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X68	ANTENNA TERMINAL BOARD-Complete
	EP2X582	BRACKET-VHF Antenna Mounting, Plastic
	EP98X481	CABINET BACK-Black, Plastic
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic
	EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X625	BRACKET-Keyboard Mounting, Plastic
	EP99X494	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP89X553	ESCUTCHEON-Primary Controls, W/Window, Plastic
	EP89X437	GRILLE-Speaker, Cherry Woodgrain, Plastic
	EP4X292	OVERLAY-Secondary Controls, Vinyl
	EP4X420	OVERLAY-Nameplate
	EP2X534	SPRING-CRT Ground

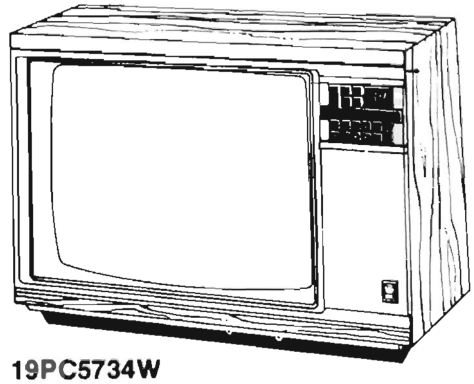
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GENERAL ELECTRIC
VIDEO PRODUCTS BUSINESS DIVISON
PORTSMOUTH, VA 23705

PC CHASSIS
19PC5734WF01



19PC5734W

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	KMPS2-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539
SPEAKER: 32 ohm, 4"	EP95X14
KMPS2-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9203-84

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X190	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X68	ANTENNA TERMINAL BOARD-Complete
	EP2X582	BRACKET-VHF Antenna Mounting, Plastic
	EP98X508	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic
	EP2X635	RETAINER-Push Fastener (2 Used)
	EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X638	BRACKET-Speaker Mounting, Plastic
	EP99X519	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP89X580	ESCUTCHEON-Upper Controls, W/Readout Window
	EP89X578	GRILLE-Speaker
	EP4X292	OVERLAY-Secondary Controls, Inlay
	EP4X420	OVERLAY-Nameplate
	EP2X534	SPRING-CRT Ground

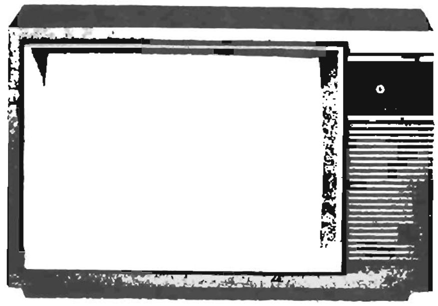
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CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	KMPS130
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X502
LIGHT DEPENDENT RESISTOR BOARD:	EP41X146
VIR MODULE:	EP93X462
SPEAKER: 32 ohm, 4"	EP95X14
KMPS130 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9204-84



19PP5736WF01

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%
R4260	EP49X494	PICTURE-10K ohm, 20%
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
SW4005	EP39X53	SWITCH-VIR, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X190	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X68	ANTENNA TERMINAL BOARD-Complete
	EP2X582	BRACKET-VHF Antenna Mounting, Plastic
	EP98X538	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic
	EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X625	BRACKET-Keyboard Mounting, Plastic
	EP99X497	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP89X556	ESCUTCHEON-Upper Control, W/Window, Plastic
	EP89X560	GRILLE-Speaker, Black
	EP2X157	LIGHT PIPE-Light Sensor, Plastic
	EP4X345	OVERLAY-Secondary Controls, Vinyl
	EP4X420	OVERLAY-Nameplate
	EP41X14	PILOT LIGHT-VIR, Red
	EP2X534	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

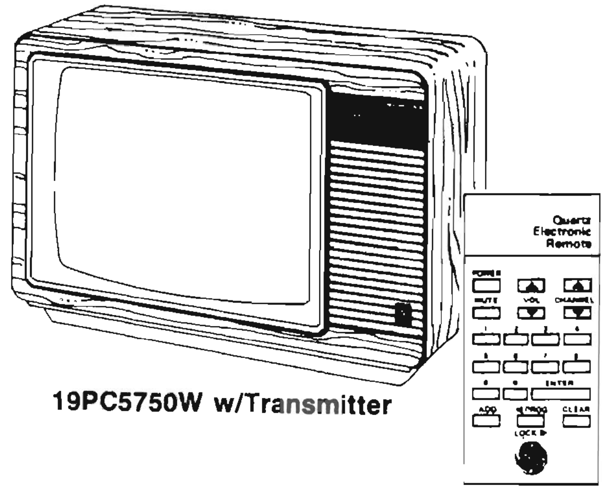
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GENERAL ELECTRIC

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PORTSMOUTH, VA 23705

PC CHASSIS
19PC5750WF01/F02

SERVICE INFORMATION — **PC CHASSIS MODEL PAGE**



19PC5750W w/Transmitter

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	MP1A-112 (F01)
TUNING SYSTEM:	MP1A-112 (F02)
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539
REMOTE CONTROL RECEIVER MODULE:	EP93X480
REMOTE CONTROL TRANSMITTER:	EP62X165
SPEAKER: 32 ohm, 4"	EP95X14
MP1A-112 TUNER CONTROL BOARD:	EP93X531 (F01)
MP1A-112 TUNER CONTROL BOARD:	EP93X538 (F02)
USER'S MANUAL:	29-9205-84

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-Detent, 10K ohm, 20%
R4260	EP49X494	PICTURE-Detent, 10K oh, 20%
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4010	EP39X134	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X68	ANTENNA TERMINAL BOARD-Complete
	EP2X582	BRACKET-VHF Antenna Mounting, Plastic
	EP98X481	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic
	EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP92X106	BRACKET-Keyboard Mounting, Plastic
	EP99X494	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP89X554	ESCUTCHEON-Primary Controls, Plastic
	EP89X480	GRILLE-Speaker, Cherry Woodgrain
	EP4X292	OVERLAY-Secondary Control, Vinyl
	EP4X420	OVERLAY-Nameplate
	EP2X534	SPRING-CRT Ground
	EP4X365	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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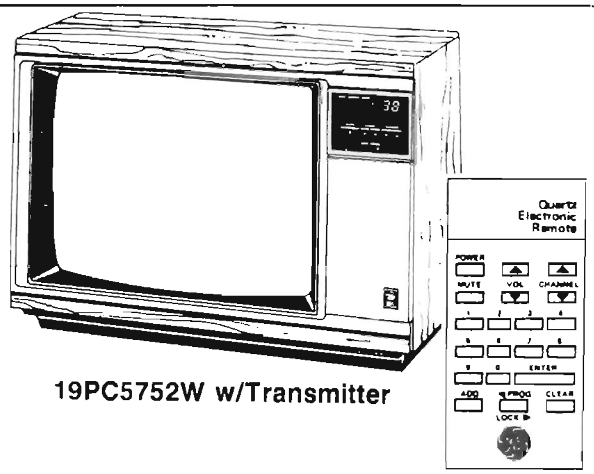
PRODUCT SERVICE DEPARTMENT, PORTSMOUTH, VA 23705

GENERAL ELECTRIC
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PORTSMOUTH, VA 23705

PC CHASSIS
19PC5752WF01

SERVICE INFORMATION

PC CHASSIS MODEL PAGE



19PC5752W w/Transmitter

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	MP1A-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539
REMOTE CONTROL RECEIVER MODULE:	EP93X480
REMOTE CONTROL TRANSMITTER:	EP62X197
SPEAKER: 32 ohm, 4"	EP95X14
MP1A-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9205-84

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%
R4260	EP49X494	PICTURE-10K ohm, 20%
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X188	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X68	ANTENNA TERMINAL BOARD-Complete
	EP2X582	BRACKET-VHF Antenna Mounting, Plastic
	EP98X508	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic
	EP2X635	RETAINER-Push Fastener (2 Used)
	EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X638	BRACKET-Speaker Mounting, Plastic
	EP92X133	BRACKET-Keyboard Mounting, Plastic
	EP99X518	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP89X579	ESCUTCHEON-Upper Controld, Black, Plastic
	EP89X578	GRILLE CLOTH-Speaker
	EP4X292	OVERLAY-Secondary Controls Inlay
	EP4X420	OVERLAY-Nameplate
	EP2X534	SPRING-CRT Ground
	EP4X499	WINDOW-Channel Readout

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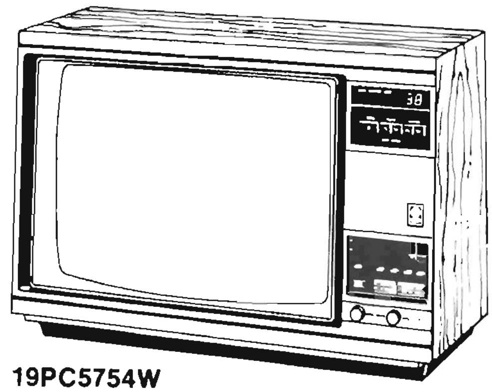
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SERVICE INFORMATION — **PC CHASSIS MODEL PAGE**

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	MP1A-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539
BATTARY:	EP58X3
POWER SUPPLY/RADIO/CLOCK/KEYBOARD:	EP93X549
RADIO CIRCUIT BOARD:	EP93X545
RELAY CIRCUIT BOARD:	EP93X546
REMOTE CONTROL RECEIVER MODULE:	EP93X480
REMOTE CONTROL TRANSMITTER:	EP62X198
SPEAKER: 32 ohm, 4"	EP95X14
MP1A-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9206-84



19PC5754W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-Detent, 10K ohm, 20%
R4260	EP49X494	PICTURE-Detent, 10K ohm, 20%
R4300	EP49X352	TINT-10K , 20%
R4301	EP49X352	COLOR-10K ohm, 20%
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast, Push
KSW05	EP39X206	SWITCH-Clock Slow, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
S1	EP39X212	SWITCH-AM/FM, Slide Type
S4010	EP39X134	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X188	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP47X64	BUTTON-Radio/TV Select, Radio On/Off
	EP47X65	BUTTON-Alarm Set, Time Set, Fast & Slow
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
	EP43X450	RADIO-Tuning
	EP43X449	RADIO-Vol.

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X72	ANTENNA TERMINAL BOARD-Complete
	EP2X582	BRACKET-VHF Antenna Mounting, plastic

(Cont.)

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EP98X508	CABINET BACK-Hardboard
EP2X250	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP92X133	BRACKET-Keyboard Mounting, Plastic
	EP99X507	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP41X147	CLOCK TIMER READOUT DISPLAY
	EP4X495	DIAL SCALE-AM/FM Radio
	EP89X570	ESCUTCHEON-Upper Controls, Speaker & Radio, Plastic
	EP89X571	GRILLE CLOTH-Speaker
	EP4X292	OVERLAY-Secondary Controls, Inlay
	EP4X420	OVERLAY-Nameplate
	EP2X534	SPRING-CRT Ground
	EP4X499	WINDOW-Channel Readout, Black, Plastic

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CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	MP1-130
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X502
LIGHT DEPENDENT RESISTOR BOARD:	EP41X146
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X480
REMOTE CONTROL TRANSMITTER:	EP62X197
VIR MODULE:	EP93X462
SPEAKER: 32 ohm, 4"	EP95X14
MP1-130 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9202-84

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4002	EP39X53	SWITCH-VIR, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

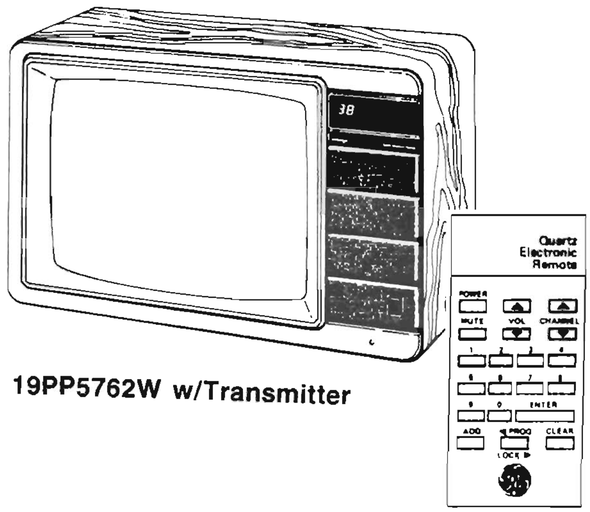
REF. NO.	PART NO.	DESCRIPTION
	EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X68	ANTENNA TERMINAL BOARD-Complete
	EP2X582	BRACKET-VHF Antenna Mounting, Plastic
	EP98X507	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic
	EP2X635	RETAINER-Push Fastener (2 Used)
	EP1X33	RIVET-Plastic



19PP5762W w/Transmitter

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X542	BRACKET-VIR Board Support, Plastic
	EP(2X115	BRACKET-Keyboard Mounting, Plastic
	EP99X523	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP4X419	DOOR-Keyboard Access
	EP89X557	ESCUTCHEON-Upper Controls, Black, Plastic
	EP89X489	GRILLE CLOTH-Speaker
	EP2X157	LIGHT PIPE-Light Sensor, Plastic
	EP4X345	OVERLAY-Secondary Controls Inlay, Plastic
	EP4X420	OVERLAY-Nameplate
	EP41X14	PILOT LIGHT-VIR, Red
	EP2X534	SPRING-CRT Ground
	EP4X484	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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GENERAL ELECTRIC

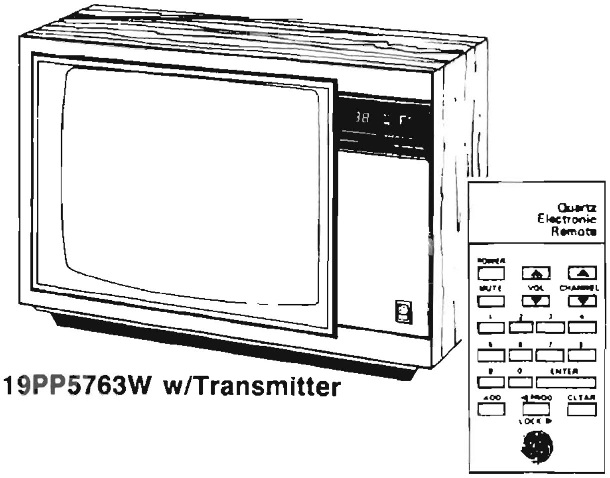
VIDEO PRODUCTS BUSINESS DIVISON
PORTSMOUTH, VA 23705

PC CHASSIS
19PP5763WF01

SERVICE INFORMATION — **PC CHASSIS MODEL PAGE**

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	MP1-130
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X502
LIGHT DEPENDENT RESISTOR BOARD:	EP41X146
REMOTE CONTROL RECEIVER MODULE:	EP93X480
REMOTE CONTROL TRANSMITTER:	EP62X197
VIR MODULE:	EP93X462
SPEAKER: 32 Ohm, 4"	EP95X14
MP1-130 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9202-84



19PP5763W w/Transmitter

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%
R4260	EP49X494	PICTURE-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
SW4005	EP39X53	SWITCH-VIR, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X68	ANTENNA TERMINAL BOARD-Complete
	EP2X582	BRACKET-VHF Antenna Mounting, Plastic
	EP98X538	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic
	EP2X635	RETAINER-Push Fastener
	EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP92X115	BRACKET-Keyboard Mounting, Plastic
	EP2X542	BRACKET-VIR Board Support, Plastic
	EP99X496	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP4X419	DOOR-Keyboard Access, Black, Lexan
	EP89X557	ESCUTCHEON-Upper Control, Black, Plastic
	EP89X581	GRILLE-Speaker
	EP2X157	LIGHT PIPE-Light Sensor, Plastic
	EP4X345	OVERLAY-Secondary Control, Vinyl
	EP4X420	OVERLAY-Nameplate
	EP41X14	PILOT LIGHT-VIR, Red
	EP2X534	SPRING-CRT Ground
	EP4X484	WINDOW-Channel Readout, Black, Plastic

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GENERAL ELECTRIC
VIDEO PRODUCTS BUSINESS DIVISON
PORTSMOUTH, VA 23705

PC CHASSIS
25PC5802KE01
25PC5803KE01
25PC5806ME01
25PC5808PE01

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-E
TUNING SYSTEM:	Direct
PICTURE TUBE:	★A63ABZ26X
VHF TUNER:	★EP86X88
UHF TUNER:	★EP85X76
SPEAKER: 8 ohm, 4"	EP95X14
USER'S MANUAL:	29-9212-84

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★R4194	EP49X477	ON/OFF, VOL.-50K ohm, 20%
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

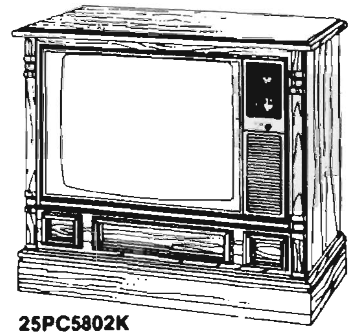
KNOBS

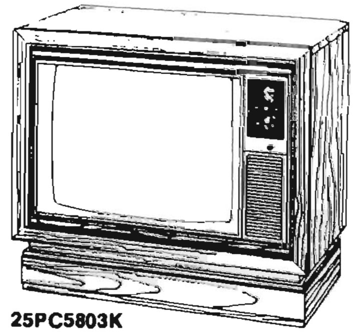
REF. NO.	PART NO.	DESCRIPTION
	EP43X338	ON/OFF, VOL.-Black, W/Retainer
	EP43X434	VHF SELECTOR-Black, W/Retainer
	EP43X437	VHF FINE TUNE-Black, W/Retainer
	EP43X454	VHF INDICATOR-Readout, Black, W/Retainer
	EP43X435	UHF SELECTOR-Black, W/Retainer
	EP43X436	UHF FINE TUNE-Black, W/Retainer
	EP43X439	UHF INDICATOR-Readout, Black, W/Retainer

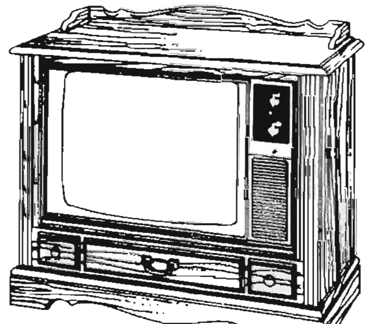
CABINET BACK PARTS

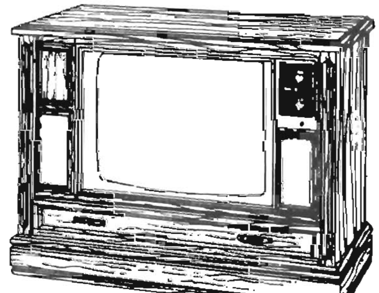
REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP37X59	ANTENNA TERMINAL BOARD-Complete
	EP98X548	CABINET BACK-Hardboard (25PC5802K)
	EP98X549	CABINET BACK-Hardboard (25PC5803K)
	EP98X550	CABINET BACK-Hardboard (25PC5806M)
	EP98X551	CABINET BACK-Hardboard (25PC5808P)
	EP2X540	CLEAT-Power Cord Storage

(Cont.)


25PC5802K


25PC5803K


25PC5806M


25PC5808P

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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	S3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X169	COVER-Service Information, Black, Plastic
	EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

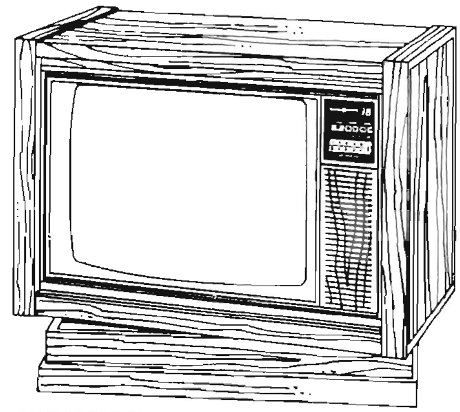
REF. NO.	PART NO.	DESCRIPTION
	EP2X553	BRACKET-CRT Corner Mounting, Metal
	EP99X423	CABINET FRONT-Dark Brown, Plastic
	EP91X80	DOOR-Secondary Controls & Speaker, Plastic (25PC5802K/25PC5803K/25PC5806M)
	EP91X133	DOOR-Secondary Controls & Speaker, W/Grille Cloth, Plastic (25PC5808P)
	EP1X33	DOOR-Rivet For Hinge
	EP2X376	DOOR CATCH
	EP89X554	DOOR HINGE
	EP89X468	ESCUTCHEON-UHF/VHF, Black, Plastic
	EP4X354	LENS-UHF & VHF Readout, Plastic
	EP4X376	OVERLAY-Secondary Controls, Plastic
	EP41X128	PILOT LIGHT-UHF/VHF Indicator
	EP3X56	SPRING-CRT Ground (2 Used)

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP68X7	CASTER-W/Socket
	EP4X85	KNOB-Decorative (Order 2) (25PC5806M)
	EP4X53	PULL-Decorative (25PC5806M)
	EP4X181	PULL-Decorative (Order 2) (25PC5808P)

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-E
TUNING SYSTEM:	KMPS1-112
PICTURE TUBE:	★A63ABZ26X
UHF/VHF TUNER:	★EP93X539
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMPS1-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9213-84



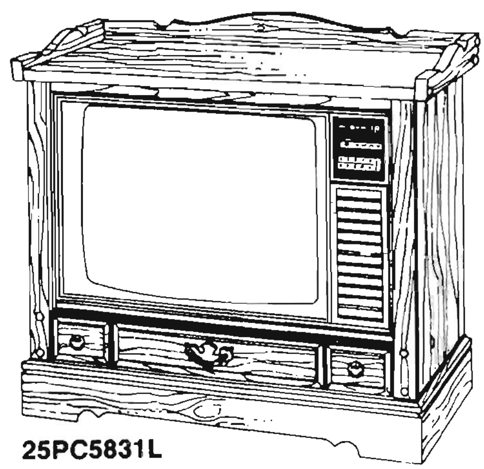
25PC5830K

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohmm 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X191	ON/OFF, VOL., & CHANNEL SELECT

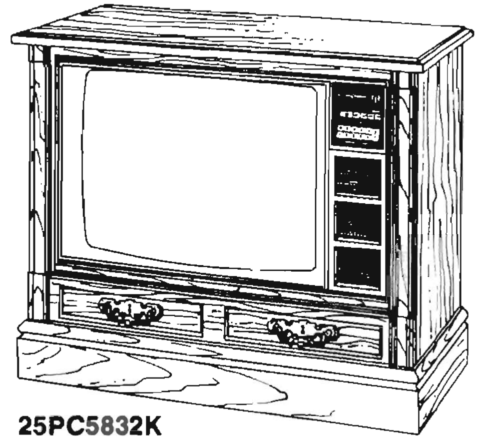


25PC5831L

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP37X68	ANTENNA TERMINAL BOARD-Complete
	EP98X547	CABINET BACK-Hardboard (25PC5830K)
	EP98X545	CABINET BACK-Hardboard (25PC5831L)
	EP98X546	CABINET BACK-Hardboard (25PC5832K)
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X169	COVER-Service Information, Black, Plastic
	EP91X74	TUBE CAP-CRT Cover, Black Plastic

(Cont.)



25PC5832K

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CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X553	BRACKET-CRT Corner Mounting, Metal
	EP92X127	BRACKET-Keyboard Mounting, Plastic
	EP99X52	CABINET FRONT-Dark Brown, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP91X129	DOOR-Secondary Controls & Speaker Cover, Plastic (25PC5830K)
	EP91X130	DOOR-Secondary Controls & Speaker Cover, Plastic (25PC5831L)
	EP91X131	DOOR-Secondary Controls & Speaker Cover, Plastic (25PC5832K)
	EP4X468	DOOR BUMPER
	EP2X626	DOOR HINGE
	EP4X515	ESCUTCHEON-Primary Controls, Black, Plastic
	EP4X514	OVERLAY-Secondary Controls, Black, Plastic
	EP1X33	RIVET-For Hinge, Plastic
	EP3X56	SPRING-CRT Ground

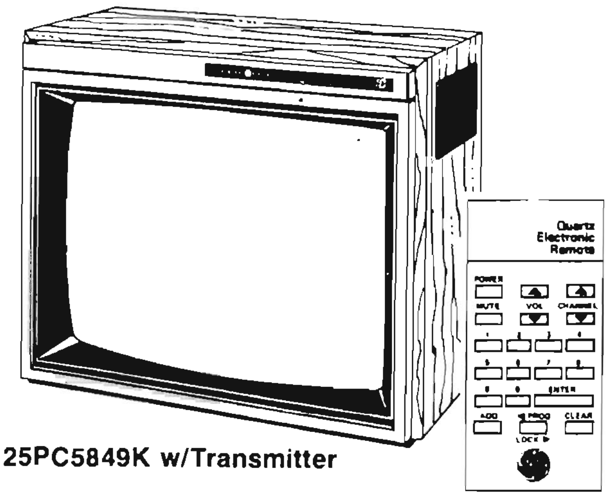
MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP68X7	CASTER-W/Socket
	EP4X182	KNOB-Decorative (Order 2) (25PC5831L)
	EP4X193	PULL-Decorative (25PC5831L)
	EP4X188	PULL-Decorative (Order 2) (25PC5832K)

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SERVICE INFORMATION — PC CHASSIS MODEL PAGE



25PC5849K w/Transmitter

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-E
TUNING SYSTEM:	MP1-112 (E01)
TUNING SYSTEM:	MP1A-112 (E02)
PICTURE TUBE:	★A63ABZ26X
UHF/VHF TUNER:	★EP93X539
REMOTE CONTROL RECEIVER MODULE:	EP93X482
REMOTE CONTROL TRANSMITTER:	EP62X165
TOP TUNING CIRCUIT BOARD:	EP93X552
SPEAKER: 16 ohm, 4" (2 Used)	EP95X25
MP1-112 TUNER CONTROL BOARD:	EP93X531 (E01)
MP1A-112 TUNER CONTROL BOARD:	EP93X538 (E02)
USER'S MANUAL:	29-9216-84

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X499	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X499	PICTURE-10K ohm, 20%, Detent
R4300	EP49X491	TINT-10K ohm, 20%
R4301	EP49X491	COLOR-10K ohm, 20%
SW4001	EP39X206	SWITCH-On/Off, Push
SW4002	EP93X206	SWITCH-Vol. Up, Push
SW4003	EP39X206	SWITCH-Vol. Down, Push
SW4004	EP39X206	SWITCH-Channel Up, Push
SW4005	EP39X206	SWITCH-Channel Down, Push
SW4012	EP39X207	SWITCH-Color Monitor
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP47X166	COLOR, TINT, BRIGHTNESS, & PICTURE
	EP47X59	ON/OFF, VOL. UP & DOWN
	EP47X61	COLOR MONITOR

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X68	ANTENNA TERMINAL BOARD-Complete
	EP2X616	BRACKET-VHF Antenna Mounting, Plastic
	EP98X535	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic
	EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X594	BRACKET-CRT Corner Mounting, Metal
	EP99X491	CABINET FRONT
	EP97X114	CABINET WRAP-Wood, W/Vinyl Woodgrain
	EP41X142	CHANNEL NUMBER READOUT DISPLAY-Green
	EP3X58	CLIP-Speaker Mounting
	EP91X123	DOOR-Top Tuning, Bronze, Plastic
	EP2X619	DOOR ARM ASSEMBLY
	EP2X596	DOOR CATCH
	EP2X593	DOOR HINGE PINS
	EP2X607	DOOR LATCH
	EP4X474	DOOR LOCK
	EP4X475	DOOR PIN
	EP89X550	GRILLE-Speaker
	EP54X253	OVERLAY-Top Tuningm Black, Lexan
	EP54X250	OVERLAY-Secondary Controls, Black, Lexan
	EP3X56	SPRING-CRT Ground
	EP3X56	SWITCH PAD-Foam Cushion
	EP4X481	WINDOW-Sensor, Snap-In, Lexan

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GENERAL ELECTRIC
VIDEO PRODUCTS BUSINESS DIVISON
PORTSMOUTH, VA 23705

PC CHASSIS
25PC5850KE01
25PC5851LE01
25PC5852KE01

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-E
TUNING SYSTEM:	MP1A-112
PICTURE TUBE:	★A63ABZ26X
UHF/VHF TUNER:	★EP93X539
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X482
REMOTE CONTROL TRANSMITTER:	EP62X197
SPEAKER: 32 ohm, 4"	EP95X14
MP1A-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9216-84

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

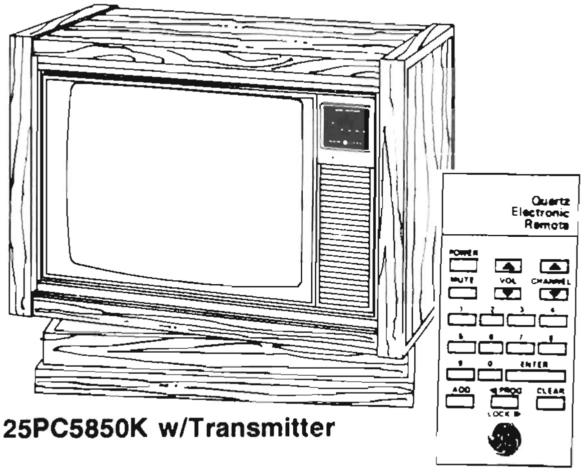
KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X189	ON/OFF, VOL., & CHANNEL SELECT

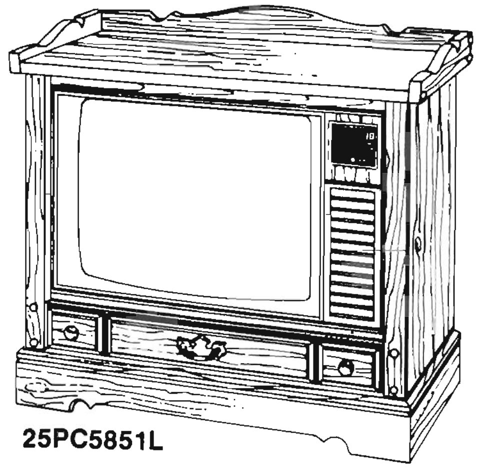
CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP37X68	ANTENNA TERMINAL BOARD-Complete
	EP98X547	CABINET BACK-Hardboard (25PC5850K)
	EP98X545	CABINET BACK-Hardboard (25PC5851L)
	EP98X546	CABINET BACK-Hardboard (25PC5852K)
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X169	COVER-Service Information, Black, Plastic
	EP91X74	TUBE CAP-CRT Cover, Black Plastic

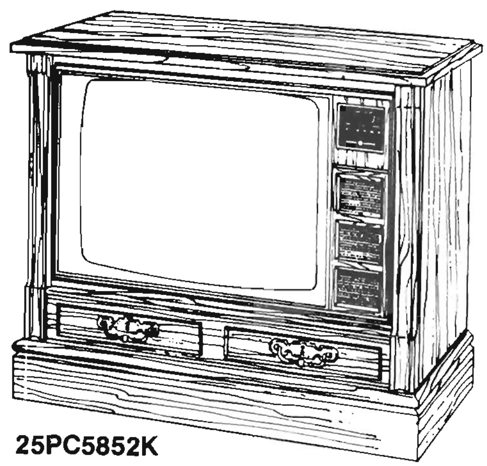
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25PC5850K w/Transmitter



25PC5851L



25PC5852K

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CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X553	BRACKET-CRT Corner Mounting, Metal
	EP92X136	BRACKET-Keyboard Mounting, Plastic
	EP99X520	CABINET FRONT-Dark Brown, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP91X129	DOOR-Controls & Speaker Cover (25PC5850K)
	EP91X130	DOOR-Controls & Speaker Cover (25PC5851L)
	EP91X131	DOOR-Controls & Speaker Cover (25PC5852K)
	EP4X468	DOOR BUMPER
	EP78X66	DOOR HANDLE-(25PC5850K)
	EP2X626	DOOR HINGE
	EP89X583	ESCUTCHEON-Upper Controls, Woodgrain, Plastic
	EP4X514	OVERLAY-Secondary Controls, Black, Plastic
	EP1X33	RIVET-Plastic
	EP3X56	SPRING-CRT Ground

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP68X7	CASTER-W/Socket
	EP4X182	KNOB-Decorative (Order 2) (25PC5851L)
	EP4X193	PULL-Decorative (25PC5851L)
	EP4X188	PULL-Decorative (Order 2) (25PC5852K)

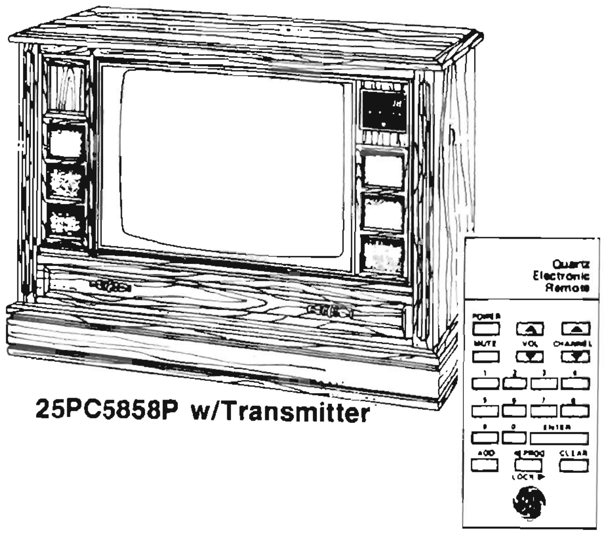
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SERVICE INFORMATION — PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-E
TUNING SYSTEM:	MP1-112 (E01)
TUNING SYSTEM:	MP1A-112 (E02)
PICTURE TUBE:	★A63ABZ26X
UHF/VHF TUNER:	★EP93X539
REMOTE CONTROL RECEIVER MODULE:	EP93X482
REMOTE CONTROL TRANSMITTER:	EP62X165
TOP TUNING CIRCUIT BOARD:	EP93X552
SPEAKER: 16 ohm, 4" (2 Used)	EP95X25
MP1-112 TUNER CONTROL BOARD:	EP93X531 (E01)
MP1A-112 TUNER CONTROL BOARD:	EP93X538 (E02)
USER'S MANUAL:	29-9216-84



25PC5858P w/Transmitter

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X189	ON/OFF, VOL., & CHANNEL SELECT

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP37X68	ANTENNA TERMINAL BOARD-Complete
	EP98X551	CABINET BACK-Hardboard
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X169	COVER-Service Information, Black, Plastic
	EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X553	BRACKET-CRT Corner Mounting, Metal
	EP92X136	BRACKET-Keyboard Mounting, Plastic
	EP99X520	CABINET FRONT-Dark Brown, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP91X134	DOOR-Controls & Speaker Cover
	EP4X468	DOOR BUMPER
	EP2X626	DOOR HINGE
	EP89X583	ESCUTCHEON-Upper Controls, Woodgrain, Plastic
	EP4X514	OVERLAY-Secondary Controls, Black, Plastic
	EP1X46	RETAINER-Speaker Fastener (2 Used)
	EP1X33	RIVET-Plastic
	EP3X56	SPRING-CRT Ground

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP68X7	CASTER-W/Socket
	EP4X189	PULL-Decorative (Order 2)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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GENERAL ELECTRIC

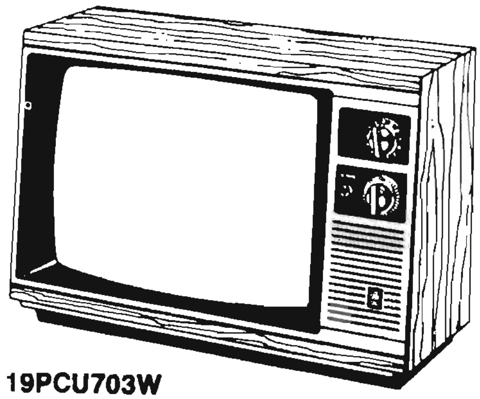
CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

PC CHASSIS
19PCU703WF01/H01/J01

SERVICE INFORMATION — **PC CHASSIS MODEL PAGE**

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F/H/J
TUNING SYSTEM:	Direct
PICTURE TUBE:	★A48ACE26X
VHF TUNER:	★EP86X88
UHF TUNER:	★EP85X76
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL:	29-9201-84



19PCU703W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select,

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
EP43X338	ON/OFF, VOL.-Black, W/Retainer
EP43X381	VHF SELECTOR-Black, W/Retainer
EP43X388	VHF FINE TUNE-Black, W/Retainer
EP43X359	UHF SELECTOR-Black, W/Retainer
EP43X361	UHF FINE TUNE-Black, W/Retainer
EP43X442	UHF INDICATOR-Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X508	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X509	CABINET FRONT-Cherry Woodgrain, Plastic (19PC5703W)
EP89X572	ESCUTCHEON-UHF/VHF & Speaker, Black, Plastic
EP4X350	OVERLAY-VHF Direct Readout, Black, Plastic
EP4X291	OVERLAY-Secondary Controls Inlay
EP4X420	OVERLAY-Nameplate
EP2X534	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

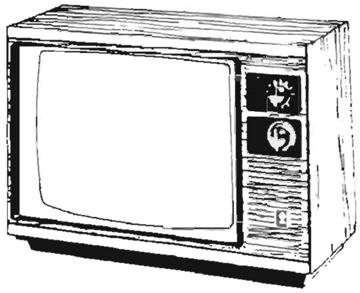
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GENERAL ELECTRIC

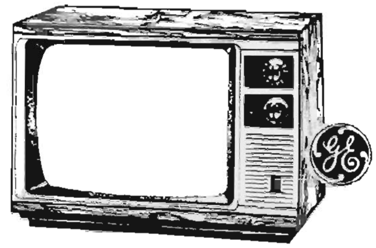
CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

PC CHASSIS
19PCU704WF01/H01/J01
19PFU704J01

SERVICE INFORMATION — **PC CHASSIS MODEL PAGE**



19PCU704W



19PFU704

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F/H/J
TUNING SYSTEM:	Direct
PICTURE TUBE:	★A48ACE26X
VHF TUNER:	★EP86X88
UHF TUNER:	★EP85X76
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL:	29-9201-84

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent (F—/H—)
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent (J— & Later)
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent (F—/H—)
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent (J— & Later)
R4300	EP49X352	TINT-10K ohm, 20% (F—/H—)
R4300	EP49X506	TINT-10K ohm, 20% (J— & Later)
R4301	EP49X352	COLOR-10K ohm, 20% (F—/H—)
R4301	EP49X506	COLOR-10K ohm, 20% (J— & Later)
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select,

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel (F—/H—)
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel (J— & Later)
EP43X338	ON/OFF, VOL.-Black, W/Retainer
EP43X381	VHF SELECTOR-Black, W/Retainer
EP43X388	VHF FINE TUNE-Black, W/Retainer
EP43X359	UHF SELECTOR-Black, W/Retainer
EP43X361	UHF FINE TUNE-Black, W/Retainer
EP43X442	UHF INDICATOR-Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X508	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X510	CABINET FRONT-Cherry Woodgrain, Plastic
EP89X450	ESCUTCHEON-UHF/VHF & Speaker, Cherry Woodgrain, Plastic
EP4X350	OVERLAY-VHF Direct Readout, Black, Plastic
EP4X292	OVERLAY-Secondary Controls Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

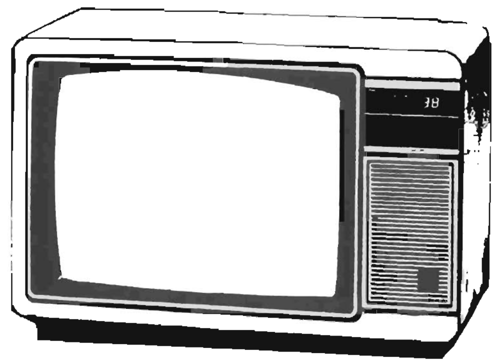
BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F/H/J
TUNING SYSTEM:	KMPS3-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMPS3-112 TUNER CONTROL BOARD:	EP93X530



19PCL737K

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
4260	EP49X494	PICTURE-10K ohm, 20%, Detent
4300	EP49X352	TINT-10K ohm, 20%
4301	EP49X352	COLOR-10K ohm, 20%
5198	EP49X475	VOL. LIMITER-50K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X203	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X67	ANTENNA TERMINAL BOARD-Complete
EP98X477	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X126	BRACKET-Keyboard Mounting, Plastic
EP99X531	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X523	ESCUTCHEON-Upper Controls, Plastic
EP4X448	FIDDLE FREE COVER-Thumbwheel
EP4X522	FIDDLE FREE COVER-Keyboard
EP89X589	GRILLE-Speaker, Oak Woodgrain, Plastic
EP4X291	OVERLAY-Secondary Controls Inlay
EP4X420	OVERLAY-Nameplate
EP2X534	SPRING-CRT Ground

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GENERAL ELECTRIC

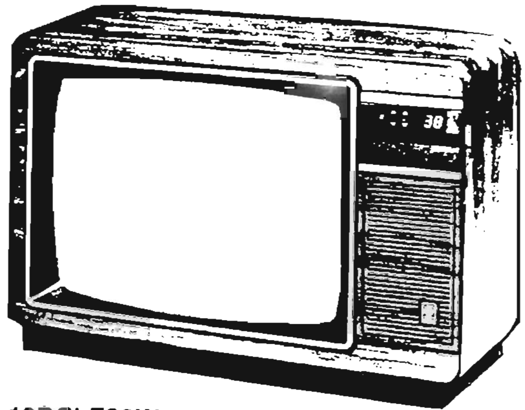
CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

PC CHASSIS
19PCL738WF01

SERVICE INFORMATION — **PC CHASSIS MODEL PAGE**

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	KMPS2-112
PICTURE TUBE:	★ A48ACE26X
UHF/VHF TUNER:	★ EP93X539
RELAY CRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMPS2-112 TUNER CONTROL BOARD:	EP93X530



19PCL738W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198	EP49X475	VOL. LIMITER-50K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X203	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X67	ANTENNA TERMINAL BOARD-Complete
EP98X477	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X126	BRACKET-Keyboard Mounting, Plastic
EP99X525	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X523	ESCUTCHEON-Upper Controls, W/Readout Window
EP4X448	FIDDLE FREE COVER-Thumbwheel
EP4X522	FIDDLE FREE COVER-Keyboard
EP89X436	GRILLE-Speaker, Black, Plastic
EP4X291	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP2X534	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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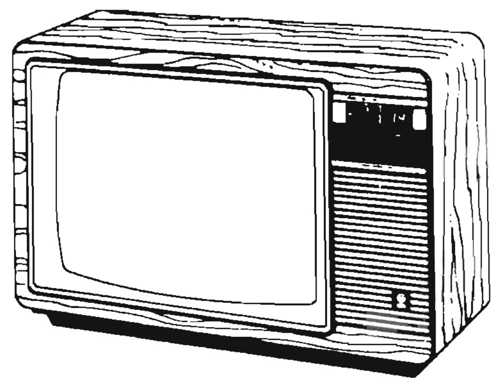
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PORTSMOUTH, VA 23705

PC CHASSIS
19PCC738WF01

SERVICE INFORMATION — **PC CHASSIS MODEL PAGE**

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	KMPS2-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539
RELAY CRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMPS2-112 TUNER CONTROL BOARD:	EP93X530



19PCC738W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198	EP49X475	VOL. LIMITER-50K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X190	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X67	ANTENNA TERMINAL BOARD-Complete
EP98X477	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X126	BRACKET-Keyboard Mounting, Plastic
EP99X525	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X586	ESCUTCHEON-Upper Controls, W/Readout Window
EP4X448	FIDDLE FREE COVER-Thumbwheel
EP4X522	FIDDLE FREE COVER-Keyboard
EP89X436	GRILLE-Speaker, Black, Plastic
EP4X291	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP2X534	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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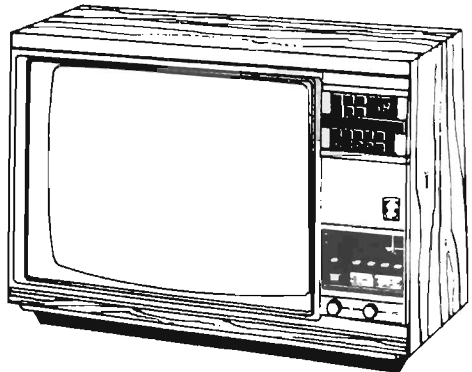
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PORTSMOUTH, VA 23705

PC CHASSIS
19PCC739WF01

SERVICE INFORMATION — PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	KMPS3-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539
BATTARY:	EP58X3
POWER SUPPLY/RADIO/CLOCK/KEYBOARD:	EP93X549
RADIO CIRCUIT BOARD: W/Vol Limiter	EP93X547
RELAY CIRCUIT BOARD:	EP93X548
SPEAKER: 32 ohm, 4"	EP95X14
KMPS3-112 TUNER CONTROL BOARD:	EP93X530



19PCC739W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198/ R5199	EP49X503	VOLUME LIMITER- T.V., 25K ohm, 30% Radio, 100K ohm, 30%
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast, Push
KSW05	EP39X206	SWITCH-Clock Slow, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
S1	EP39X212	SWITCH-AM/FM, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X190	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
EP47X64	TV/RADIO, & ALARM OFF/ON
EP43X449	RADIO-Volume, Black, W/Retainer
EP43X450	RADIO-Tuning, Black
EP43X65	SET/FAST/SLOW/TIME SET

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X72	ANTENNA TERMINAL BOARD-Complete
EP98X543	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

(Cont.)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X122	BRACKET-Radio Support, Plastic
EP92X134	BRACKET-Keyboard Mounting, Plastic
EP99X512	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X147	CLOCK TIMER READOUT DISPLAY
EP4X495	DIAL-AM/FM Radio
EP89X585	ESCUTCHEON-Upper Controls, Speaker, & Radio Black, Plastic
EP4X448	FIDDLE FREE COVER-Thumbwheel, Black, Plastic
EP4X498	FIDDLE FREE COVER-Keyboard, Black, Lexan
EP2X612	GEAR-Radio Tuning
EP4X291	OVERLAY-TV, Secondary Controls Inlay
EP4X420	OVERLAY-Nameplate
EP2X613	POINTER-Radio Dial
EP2X534	SPRING-CRT Ground
EP41X140	TV CHANNEL NUMBER READOUT DISPLAY-Green

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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GENERAL ELECTRIC

CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

PC CHASSIS
19PCU752WF01/H01/J01

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F/H/J
TUNING SYSTEM:	MP2-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539
REMOTE CONTROL RECEIVER MODULE:	EP93X480
REMOTE CONTROL TRANSMITTER:	EP62X197
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
MP2-112 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9205-84

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%
R4260	EP49X494	PICTURE-10K ohm, 20%
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

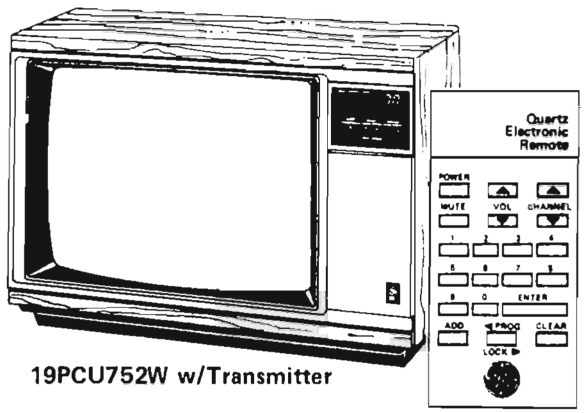
PART NO.	DESCRIPTION
EP62X188	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete



19PCU752W w/Transmitter

EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X508	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X638	BRACKET-Speaker Mounting, Plastic
EP92X133	BRACKET-Keyboard Mounting, Plastic
EP99X518	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X579	ESCUTCHEON-Upper Controld, Black, Plastic
EP89X578	GRILLE CLOTH-Speaker
EP4X292	OVERLAY-Secondary Controls Inlay
EP4X420	OVERLAY-Nameplate
EP2X534	SPRING-CRT Ground
EP4X499	WINDOW-Channel Readout

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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GENERAL ELECTRIC

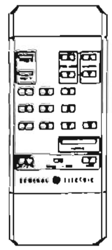
CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

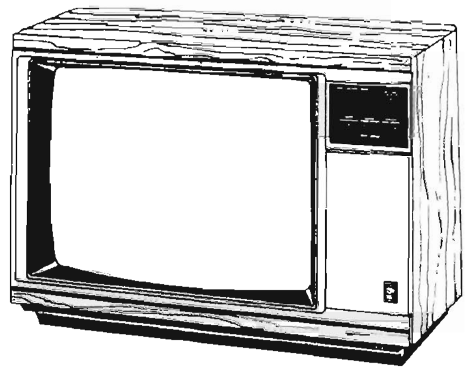
PC CHASSIS
19PF5752J03
19PFU752J03

SERVICE INFORMATION — **PC CHASSIS MODEL PAGE**

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	MP2-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X575
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X208
REMOTE RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
MP2-112 TUNER CONTROL BOARD:	EP93X531





19PF5752/19PFU752

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
★S4000	EP39X221	SWITCH-ON/OFF
SW4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X221	VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X569	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X638	BRACKET-Speaker Mounting, Plastic
EP92X133	BRACKET-Keyboard Mounting, Plastic
EP99X518	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X579	ESCUTCHEON-Upper Controls, Plastic
EP89X578	GRILLE-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground
EP4X556	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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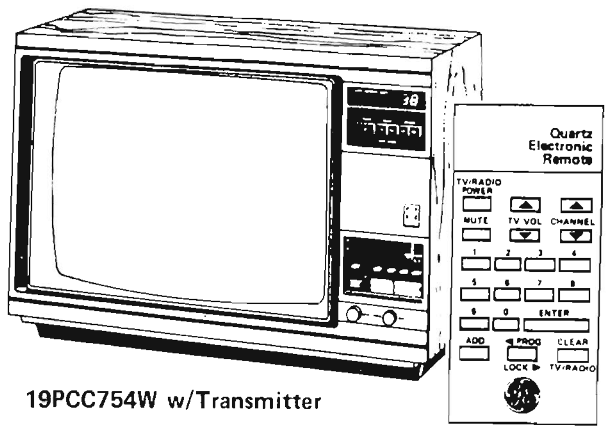
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PC CHASSIS
19PCC754WF01/H01/J01

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F/H/J
TUNING SYSTEM:	MP1A-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539
BATTERY:	EP58X3
POWER SUPPLY/ RADIO/CLOCK/KEYBOARD:	EP93X549
RADIO CIRCUIT BOARD:	EP93X547 - ok
RELAY CIRCUIT BOARD:	EP93X546 - ok
REMOTE CONTROL RECEIVER MODULE:	EP93X480
REMOTE CONTROL TRANSMITTER:	EP62X198
SPEAKER: 32 ohm, 4"	EP95X14
MP1A-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9206-84



19PCC754W w/Transmitter

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-Detent, 10K ohm, 20%
R4260	EP49X494	PICTURE-Detent, 10K ohm, 20%
R4300	EP49X352	TINT-10K , 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198/ R5199	EP49X503	Volume Limiter, T.V., 25K ohm, 30% Radio, 100K ohm, 30%
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast, Push
KSW05	EP39X206	SWITCH-Clock Slow, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
S1	EP39X212	SWITCH-AM/FM, Slide Type
S4010	EP39X134	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X188	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP47X64	BUTTON-Radio/TV Select, Radio On/Off
EP47X65	BUTTON-Alarm Set, Time Set, Fast & Slow
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
EP43X450	RADIO-Tuning
EP43X449	RADIO-Vol.

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X72	ANTENNA TERMINAL BOARD-Complete
EP98X543	CABINET BACK-Black, Plastic
EP2X250	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener
EP1X33	RIVET-Plastic

(Cont.)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X512	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP41X147	CLOCK TIMER READOUT DISPLAY
EP4X495	DIAL SCALE-AM/FM Radio
EP89X570	ESCUTCHEON-Upper Controls, Speaker & Radio, Plastic
EP4X448	FIDDLE FREE COVER-Thumbwheel
EP89X571	GRILLE CLOTH-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP2X534	SPRING-CRT Ground
EP4X499	WINDOW-Channel Readout, Black, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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GENERAL ELECTRIC

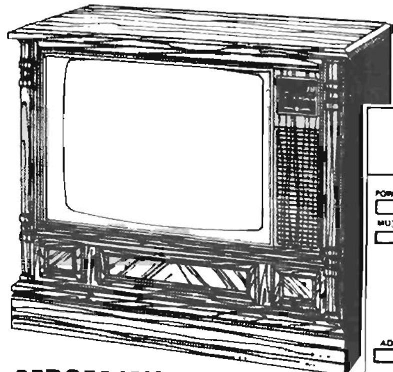
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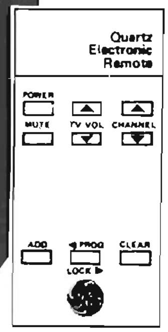
PC CHASSIS
25PC5842KE01
25PC5843KE01
25PC5846ME01

SERVICE INFORMATION — **PC CHASSIS MODEL PAGE**

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-E
TUNING SYSTEM:	LMP2-112
PICTURE TUBE:	A63ABZ26X
UHF/VHF TUNER:	EP93X539
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X482
REMOTE CONTROL TRANSMITTER:	EP62X164
SPEAKER: 32 ohm, 4"	EP95X14
LMP2-112 TUNER CONTROL BOARD:	EP93X465
USER'S MANUAL:	29-9215-84

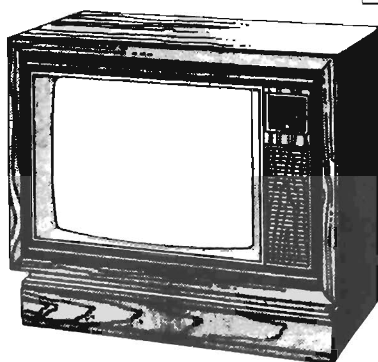




25PC5842K w/Transmitter

CONTROLS

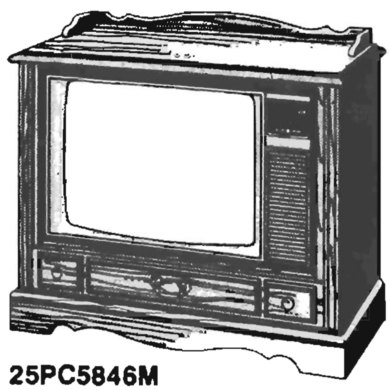
REF. NO.	PART NO.	DESCRIPTION
R4220	49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	49X493	PICTURE-10K ohm, 20%, Detent
R4300	49X412	TINT-10K ohm, 20%
R4301	49X412	COLOR-10K ohm, 20%
S4010	39X53	SWITCH-Color Monitor, Slide Type
SW5008	39X146	SWITCH-Cable Select, Slide Type



25PC5843K

KEYBOARD

PART NO.	DESCRIPTION
EP62X189	ON/OFF, VOL., & CHANNEL SELECT



25PC5846M

(Cont.)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP98X548	CABINET BACK-Hardboard (25PC5842K)
EP98X549	CABINET BACK-Hardboard (25PM5843K)
EP98X550	CABINET BACK-Hardboard (25PC5846M)
EP2X540	CLEAT-Power Cord Storage
EP3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP92X136	BRACKET-Keyboard Mounting, Plastic
EP99X520	CABINET FRONT-Brown, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X129	DOOR-Secondary Controls, & Speaker, Plastic
EP4X468	DOOR BUMPER
EP78X66	DOOR HANDLE
EP2X626	DOOR HINGE
EP89X583	ESCUTCHEON-Upper Controls, Black, Plastic
EP4X514	OVERLAY-Secondary Controls, Plastic
EP1X33	RIVET-Plastic
EP3X56	SPRING-CRT Ground (2 Used)

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X85	KNOB-Decorative (Order 2) (25PC5846M)
EP4X53	PULL-Decorative (25PC5846M)

IMPORTANT SAFETY NOTICE

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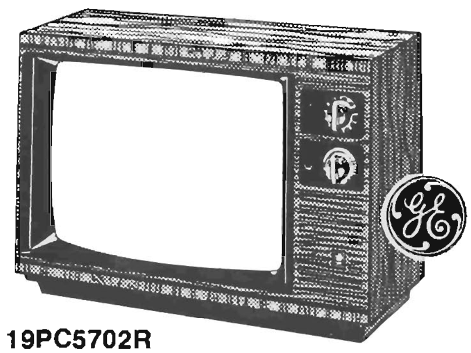
PC CHASSIS
19PC5702RF01/H01/J01

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F/H/J
TUNING SYSTEM:	Direct
PICTURE TUBE:	★A48ACE26X
VHF TUNER:	★EP86X88
UHF TUNER:	★EP85X76
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL:	29-9202-85



19PC5702R

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent (F/H)
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent (J)
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent (F/H)
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent (J)
R4300	EP49X352	TINT-10K ohm, 20% (F/H)
R4300	EP49X506	TINT-10K ohm, 20% (J)
R4301	EP49X352	COLOR-10K ohm, 20% (F/H)
R4301	EP49X506	COLOR-10K ohm, 20% (J)
S4010	EP39X53	SWITCH-Color Monitor, Slide Type

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel (F/H)
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel (J)
EP43X338	ON/OFF, VOL.-Black, W/Retainer
EP43X381	VHF SELECTOR-Black, W/Retainer
EP43X388	VHF FINE TUNE-Black, W/Retainer
EP43X359	UHF SELECTOR-Black, W/Retainer
EP43X361	UHF FINE TUNE-Black, W/Retainer
EP43X442	UHF INDICATOR-Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X569	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X522	CABINET FRONT-Rosewood Woodgrain, Plastic
EP89X582	ESCUTCHEON-UHF/VHF & Speaker, Rosewood, Plastic
EP2X664	HOLE PLUG-Cover, Non Used Switch, Black, Plastic
EP4X350	OVERLAY-UHF & VHF Direct Readout
EP4X561	OVERLAY-Secondary Controls Inlay, Black, Vinyl
EP4X420	OVERLAY-Nameplate
EP41X14	PILOT LIGHT-VIR, Red, Y4001
EP34X72	SOCKET-L.E.D.
EP3X56	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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PC CHASSIS
19PF3742J06/J07

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	LMP1B-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X575
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X209
SPEAKER: 32 ohm, 4"	EP95X14
LMP1B-112 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9242-85

CONTROLS

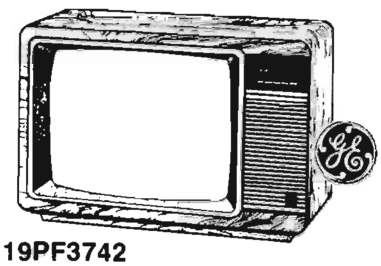
REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20% (J06)
R4220	EP49X494	BIRGHTNESS-10K ohm, 20%, Detent (J07)
R4260	EP49X507	PICTURE-10K ohm, 20% (J06)
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent (J07)
R4300	EP49X506	TINT-10K ohm, 20% (J06)
R4300	EP49X352	TINT-10K ohm, 20% (J07)
R4301	EP49X506	COLOR-10K ohm, 20% (J06)
R4301	EP49X352	COLOR-10K ohm, 20% (J07)
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

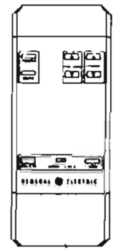
KEYBOARD

PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black (J06)
EP43X341	COLOE, TINT, BRIGHTNESS, & PICTURE-Black (J07)





19PF3742

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X481	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X106	BRACKET-Keyboard Mounting, Plastic
EP99X494	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X587	ESCUTCHEON-Upper Controls, Black, Lexan
EP89X480	GRILLE-Speaker, Cherry Woodgrain, Plastic
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground
EP4X549	WINDOW-Channel Readout, Plastic

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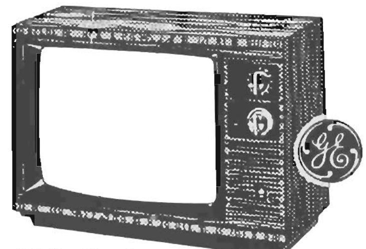
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PC CHASSIS
19PC5707WF01/H01/H02/J01/J02
19PC5707H01/H02/J01/J02

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F/H/J
TUNING SYSTEM:	Direct
PICTURE TUBE:	★A48ACE26X
VHF TUNER:	★EP86X88
UHF TUNER:	★EP85X76
BILINGUAL DECODER CIRCUIT BOARD:	EP93X555 (F01 & H01)
BILINGUAL DECODER CIRCUIT BOARD:	EP93X637 (H02/J01/J02 & Later)
SPEAKER:	32 ohm, 4" EP95X14
USER'S MANUAL:	29-9247-84 (19PC5707W)
USER'S MANUAL:	29-9207-85 (19PC5707)



19PC5707W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent (F01/H01/H02)
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent (J01/J02 & Later)
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent (F01/H01/H02)
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent (J01/J02 & Later)
R4300	EP49X352	TINT-10K ohm, 20% (F01/H01/H02)
R4300	EP49X506	TINT-10K ohm, 20% (J01/J02 & Later)
R4301	EP49X352	COLOR-10K ohm, 20% (F01/H01/H02)
R4301	EP49X506	COLOR-10K ohm, 20% (J01/J02 & Later)
SW400	EP39X53	SWITCH-Bilingual Defeat, Slide Type
S4010	EP39X53	SWITCH-Color Monitor, Slide Type

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel (F01/H01/H02)
	EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel (J01/J02 & Later)
	EP43X338	ON/OFF, VOL.-Black, W/Retainer
	EP43X381	VHF SELECTOR-Black, W/Retainer
	EP43X388	VHF FINE TUNE-Black, W/Retainer
	EP43X359	UHF SELECTOR-Black, W/Retainer
	EP43X361	UHF FINE TUNE-Black, W/Retainer
	EP43X442	UHF INDICATOR-Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X569	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X522	CABINET FRONT-Rosewood Woodgrain, Plastic
EP89X582	ESCUTCHEON-UHF/VHF & Speaker, Rosewood, Plastic
EP4X516	OVERLAY-UHF & VHF Direct Readout
EP4X517	OVERLAY-Secondary Controls, Black, Plastic
EP4X420	OVERLAY-Nameplate
EP41X41	PILOT LIGHT-Bilingual Indicator, Red
EP41X14	PILOT LIGHT-VIR, Red, Y4001
EP34X72	SOCKET-L.E.D.
EP3X56	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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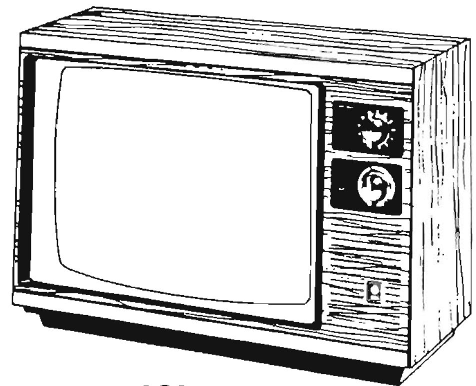
GENERAL ELECTRIC

CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

PC CHASSIS
19CC6709J01

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	Direct
PICTURE TUBE:	★A48ACE26X
VHF TUNER:	★EP86X88
UHF TUNER:	★EP85X76
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL	29-9209-85



19CC6709

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R5198	EP49X475	VOL. LIMITER-50K ohm, 20%
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black
EP43X363	FIDDLE FREE KNOB-Fine Tune
EP43X338	ON/OFF, VOL.-Black, W/Retainer
EP43X381	VHF SELECTOR-Black, W/Retainer
EP43X388	VHF FINE TUNE-Black, W/Retainer
EP43X359	UHF SELECTOR-Black, W/Retainer
EP43X361	UHF FINE TUNE-Black, W/Retainer
EP43X442	UHF INDICATOR-Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X56	ANTENNA TERMINAL BOARD-Complete
EP98X543	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X517	CABINET FRONT-Cherry Woodgrain, Plastic
ES3X23	CLIP-For Fiddle Free Escutcheon
EP89X450	ESCUTCHEON-UHF/VHF & Speaker, Cherry Woodgrain, Plastic
EP4X448	FIDDLE FREE COVER-Thumbwheels
EP4X219	FIDDLE FREE ESCUTCHEON ASSEMBLY
EP4X358	OVERLAYS-UHF & VHF Readout, Black, Alum.
EP4X291	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

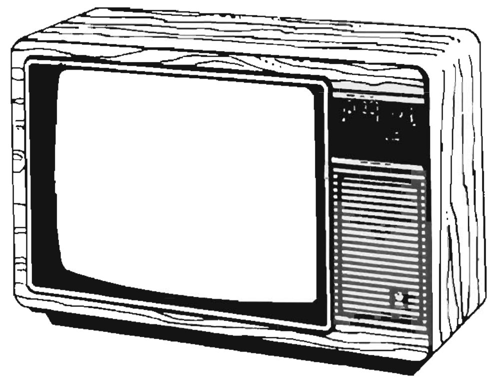
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CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	KMPS-112
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X575
REMOTE POWER RELAY BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMPS-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9203-85



19CC6733

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
R5198	EP49X475	VOL. LIMITER-50K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X224	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X67	ANTENNA TERMINAL BOARD-Complete
EP98X477	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X126	BRACKET-Keyboard Mounting, Plastic
EP99X539	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X598	ESCUTCHEON ASSEMBLY-Upper Controls
EP4X448	FIDDLE FREE COVER-Thumbwheels
EP4X522	FIDDLE FREE COVER-Keyboard
EP89X436	GRILLE-Speaker
EP4X291	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

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9/85 (Supersedes 6/85)

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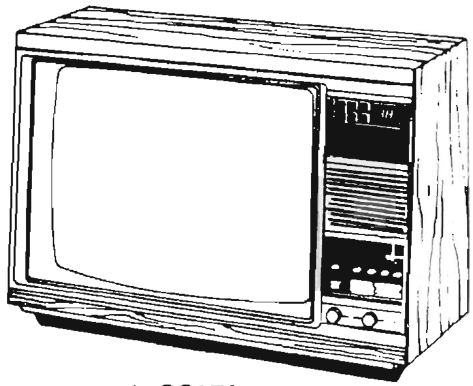
PC CHASSIS
19CC6739J01

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	KMPS-112
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X575
RADIO CIRCUIT BOARD:	EP93X547
RADIO POWER SUPPLY/KEYBOARD:	EP93X549
RELAY CIRCUIT BOARD:	EP93X595
SPEAKER: 32 ohm, 4"	EP95X14
KMPS-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9239-85



19CC6739

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
R5198/	EP49X498	TV VOL. LIMITER-25K ohm, 30%
R5199		RADIO VOL. LIMITER-100K ohm, 30%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X224	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP47X64	BUTTON-Radio/TV Select, Radio On/Off
EP47X65	BUTTON-Alarm Set, Time Set, Fast & Slow
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black
EP43X461	RADIO-Vol., Black, W/Retainer
EP43X462	RADIO-Tuning, Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X72	BRACKET-VHF Antenna Mounting, Plastic
EP98X543	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X122	BRACKET-Radio Support, Plastic
EP92X134	BRACKET-Keyboard Mounting, Plastic
EP99X512	CABINET FRONT-Cherry Woodgrin, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP41X147	CLOCK TIMER READOUT DISPLAY
EP89X574	ESCUTCHEON-Radio/TV, Black, Lexan
EP4X448	FIDDLE FREE COVER-Thumbwheel
EP4X498	FIDDLE FREE COVER-Keyboard
EP4X291	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

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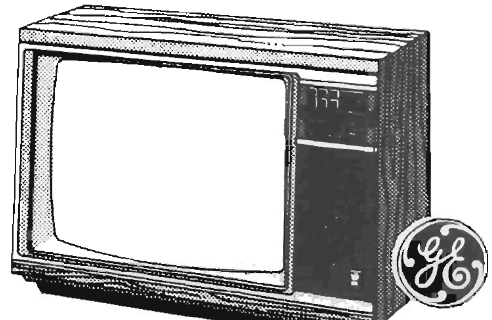
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PORTSMOUTH, VA 23705

PC CHASSIS
19PC5734WF01/H01/J01
19PF5734F01/H01/J01

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F/H/J
TUNING SYSTEM:	KMPS-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539 (F01/H01)
UHF/VHF TUNER:	★EP93X575 (J01 & Later)
SPEAKER:	32 ohm, 4" EP95X14
KMPS-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9203-84



19PF5734
19PC5734

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent (F01/H01)
R4220	EP49X507	BIRGHTNESS-10K ohm, 20%, Detent (J01 & Later)
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent (F01/H01)
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent (J01 & Later)
R4300	EP49X352	TINT-10K ohm, 20% (F01/H01)
R4300	EP49X506	TINT-10K ohm, 20% (J01 & Later)
R4301	EP49X352	COLOR-10K ohm, 20% (F01/H01)
R4301	EP49X506	COLOR-10K ohm, 20% (J01 & Later)
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X190	ON/OFF, VOL., & CHANNEL SELECT (F01/H01)
EP62X223	ON/OFF, VOL., & CHANNEL SELECT (J01 & Later)

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel (F01/H01)
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel (J01 & Later)

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X569	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

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CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X134	BRACKET-Keyboard Mounting, Plastic
EP2X638	BRACKET-Speaker Mounting, Plastic
EP99X519	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X580	ESCUTCHEON-Upper Controls, W/Readout Window
EP89X578	GRILLE-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

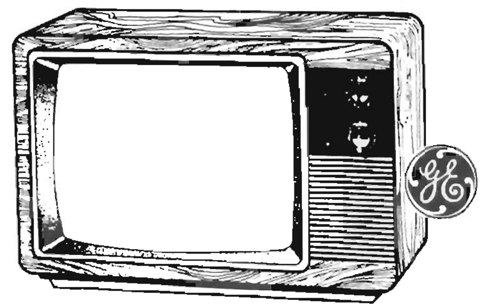
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PORTSMOUTH, VA 23705

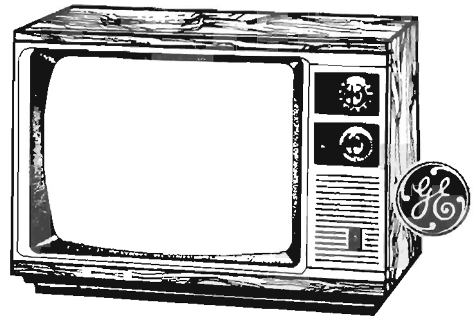
PC CHASSIS
19PF6703J01
19PF6704J01

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	Direct
PICTURE TUBE:	★ A48ACE26X
VHF TUNER:	★ EP86X88
UHF TUNER:	★ EP85X76
SPEAKER:	32 ohm, 4" EP95X14
USER'S MANUAL:	29-9203-85



19PF6703



19PF6704

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black
EP43X338	ON/OFF, VOL.-Black, W/Retainer
EP43X381	VHF SELECTOR-Black, W/Retainer
EP43X388	VHF FINE TUNE-Black, W/Retainer
EP43X359	UHF SELECTOR-Black, W/Retainer
EP43X361	UHF FINE TUNE-Black, W/Retainer
EP43X442	UHF INDICATOR-Black, W/Retiner

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD- Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X481	CABINET BACK-Black, Plastic (19PF6703)
EP98X508	CABINET BACK-Black, Plastic (19PF6704)
EP2X540	CLEAT-Power Cord Storage
EPES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X533	CABINET FRONT-Cherry Woodgrain, Plastic
EP99X534	CABINET FRONT-Cherry Woodgrain, Plastic
EP89X592	ESCUTCHEON-UHF/VHF & Speaker, Black, Plastic (19PF6703)
EP89X593	ESCUTCHEON-UHF/VHF & Speaker, Gray, Plastic (19PF6704)
EP4X544	OVERLAY-UHF & VHF, Black, Alum. (19PF6703)
EP4X516	OVERLAY-UHF & VHF, Black, Alum. (19PF6704)
EP4X292	OVERLAY-Secondary Control, Black, Plastic
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

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PC CHASSIS
19PF6730J01

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	KMP-112
PICTURE TUBE:	★ A48ACE26X
UHF/VHF TUNER:	★ EP93X575
REMOTE POWER RELAY BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMP-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9230-85

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%
R4260	EP49X507	PICTURE-10K ohm, 20%
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
★ S4000	EP39X221	SWITCH-On/Off, Push-Push
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

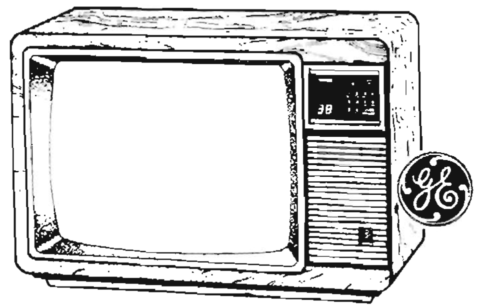
PART NO.	DESCRIPTION
EP62X230	CHANNEL SELECT-W/On/Off Switch

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, PICTURE-Black
EP43X445	ON/OFF,-Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X481	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener
EP1X33	RIVET-Plastic



19PF6730

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X114	BRACKET-Keyboard Mounting, Plastic
EP99X494	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X545	ESCUTCHEON-Upper Controls, Black, Plastic
EP89X437	GRILLE-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

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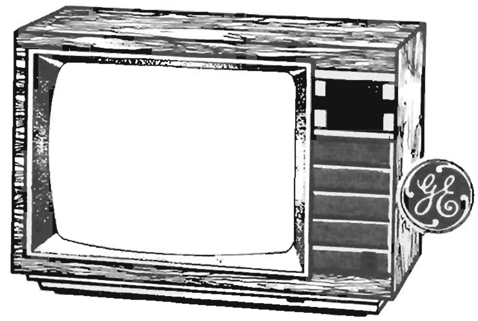
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PORTSMOUTH, VA 23705

PC CHASSIS
19PF6736J01

SERVICE INFORMATION — PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19'' PC-J
TUNING SYSTEM:	KMPS-112
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X575
REMOTE POWER RELAY BOARD:	EP93X544
SPEAKER: 32 ohm, 4''	EP95X14
KMPS-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9236-85



19PF6736

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X223	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X525	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X126	BRACKET-Keyboard Mounting, Plastic
EP99X536	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X595	ESCUTCHEON ASSEMBLY-Upper Controls
EP89X479	GRILLE-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

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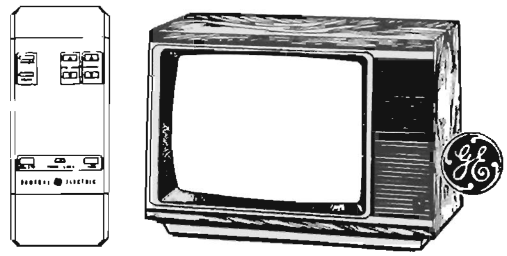
CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

PC CHASSIS
19PF6740J03
rF4

SERVICE INFORMATION — **PC CHASSIS MODEL PAGE**

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	LMP2-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X575
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X209
REMOTE RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
LMP2-112 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9240-85



19PF6740

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X569	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X638	BRACKET-Speaker Mounting, Plastic
EP92X140	BRACKET-Keyboard Mounting, Plastic
EP99X538	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X547	ESCUTCHEON-Upper Controls, Plastic
EP89X597	GRILLE-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Spring
EP4X548	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

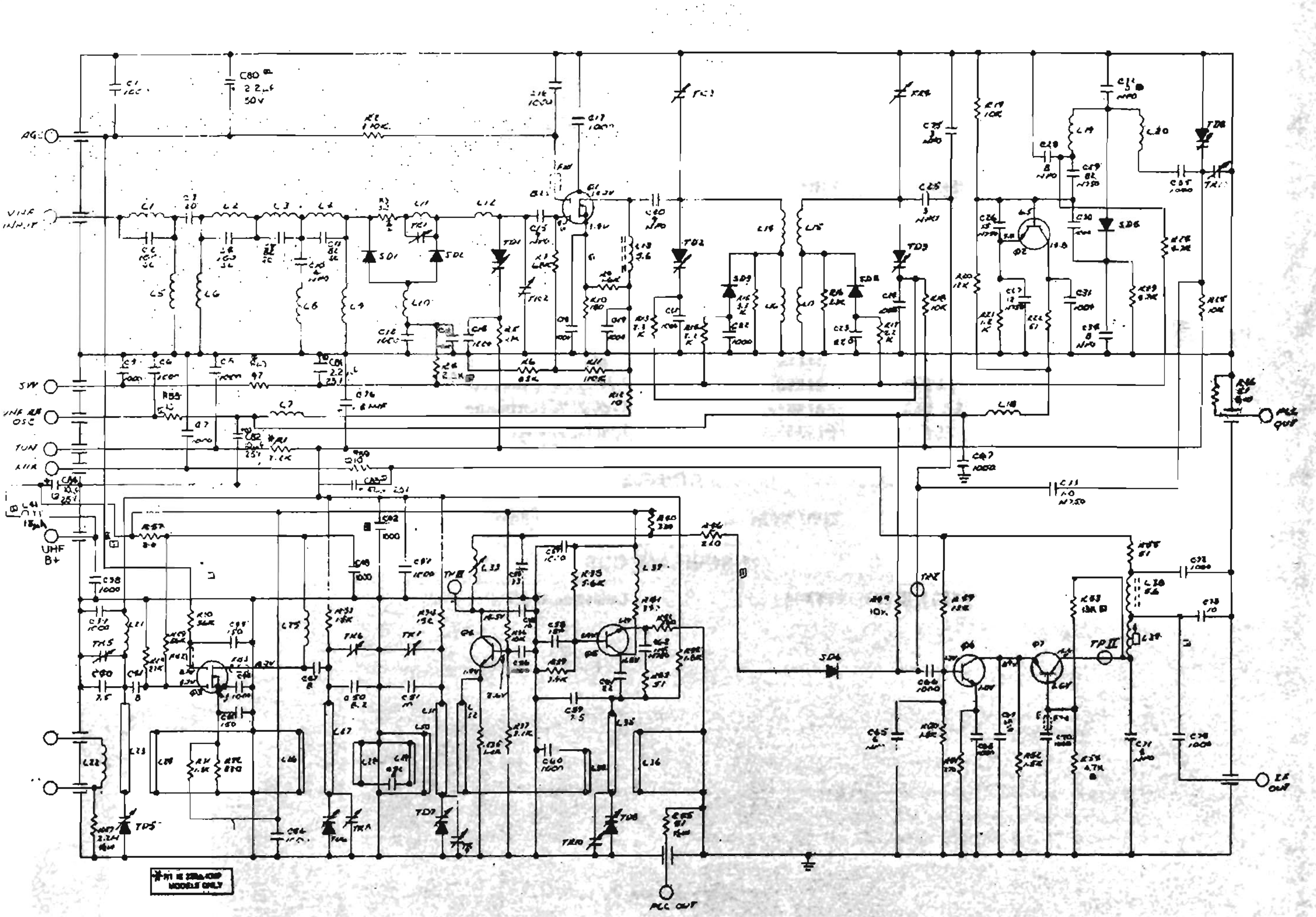
GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

TELEVISION

PC CHASSIS
UHF/VHF TUNER
EP93X387



UHF/VHF TUNER SCHEMATIC DIAGRAM EP93X387

REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
		UHF/VHF TUNER EP93X387
		CAPACITORS
C80	EP31X80	2.2uf, 50V, Electrolytic
C81	EP31X80	2.2uf, 25V, Electrolytic
C82, C83	EP31X45	47uf, 25V, Electrolytic
C84	EP31X35	10uf, 35V, Electrolytic
		COILS
L41	EP36X136	Coil (15uh) Choke
		MISCELLANEOUS
PG203/RL203	EP8X44	Connector, 6 pos. (Inc. Pins)

NOTE: FOR REPAIRS REQUIRING PARTS OTHER THAN THOSE LISTED, ORDER A COMPLETE REPLACEMENT TUNER.

PC CHASSIS MODEL INDEX (CONTINUED)

25 Inch Models

ET91 CONTROL ASM.

EP93X376

PRINTED CIRCUIT BOARD ASSEMBLIES

REF. NO.	PART NO.	DESCRIPTION
M-R	EP93X386	ET91 Control Board (Bottom)
M-S	EP93X294	ET91 Resistor Board (Top)

PARTS NOT ON MODULES

CAPACITORS

C40	EU23X4	1000pf, 500V, Feed Thru
C42	EU23X4	1000pf, 500V, Feed Thru
C44	EU23X4	1000pf, 500V, Feed Thru
C46	EU23X4	1000pf, 500V, Feed Thru
C48	EU23X4	1000pf, 500V, Feed Thru
C50	EU23X4	1000pf, 500V, Feed Thru
C52	EU23X4	1000pf, 500V, Feed Thru

RESISTORS

R28	EP14X48	10 ohm, 5%, 2W, Wirewound
R29	ES14X58	470 ohm, 5%, ¼W, Carbon
R30	EP14X105	100K ohm, 5%, ¼W, Carbon

TRANSISTOR

Q28	ES15X125	NPN, Silicon

DIODES

Y29	EP16X155	Zener
Y30	EP57X5	Rectifier, Silicon

MISCELLANEOUS

	EP2X375	Case—Casing, Top & Bottom, Plastic (Middle Section) w/Detent Springs & Balls
	EP2X374	Cam—Encoder, Plastic
RL3	EP8X71	Connector - 6 pos.
RL10	EP8X94	Connector - 4 pos.
RL203	EP8X44	Connector - 6 pin
	EP2X238	Cover, Tuner Control, Plastic
SJ01/SJ02	EP8X23	Jack—Phone
	EP2X374	Shaft—Channel Select, Plastic
	EP39X147	Tuner Contacts, w/Push Rods & Retainer

ET91 CONTROL BOARD M-R (BOTTOM)

EP93X386

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C04	EP31X35	10uf, 50V, Electrolytic
C10	EP25X87	.047uf, 20%, 50V, Paper
C12	ES31X53	.47uf, 50V, Electrolytic
C13	EP31X11	4.7uf, 35V, Electrolytic
C15	ES25X77	.1uf, 20%, 50V, Polyester
C16	EP31X39	2.2uf, 20%, 25V, Electrolytic
C18	EP18X197	1000pf, 10%, 50V, Cer. Disc
C20	EP31X31	470uf, 16V, Electrolytic
C22	EP18X191	68pf, 5%, 50V, Cer. Disc
C23	EP18X46	4.7pf, 10%, 50V, Cer. Disc
C24	EP30X3	2pf to 6pf, 50V, Trimmer
C25	EP18X219	30pf, 5%, 50V, Cer. Disc
C26	EP18X169	.01uf,30%, 25V, Cer. Disc
C27	EP18X262	.01uf, 10%, 50V, Cer. Disc
C28	EP18X220	1000pf, 10%, 50V, Cer. Disc
C30	EP31X35	10uf, 16V, Electrolytic
C31	EP18X144	1000pf, 10%, 50V, Cer. Disc
C32	EP18X262	.01uf, 5%, 50V, Cer. Disc
C33	EP18X169	.01uf, 30%, 25V, Cer. Disc
C41	EP25X87	.047uf, 20%, 50V, Polyester
C43	EP25X87	.047uf, 20%, 50V, Polyester
C45	EP25X87	.047uf, 20%, 50V, Polyester
C47	EP25X87	.047uf, 20%, 50V, Polyester
C49	EP25X87	.047uf, 20%, 50V, Polyester
C53	EP18X167	.047uf, 50V, +80—20, Cer. Disc, HiK
C54	EP25X89	.047uf, 20%, 100V, Paper

RESISTORS

F7	ES14X51	47 ohm, 5%, ¼W, Carbon
F8	Common	39 ohm, 5%, ¼W, Carbon
F9	Common	10 ohm, 5%, ¼W, Carbon
R02	Common	1.2K ohm, 5%, ½W, Carbon
R04	Common	3.9K ohm, 5%, ¼W, Carbon
R08	Common	43 ohm, 5%, ¼W, Carbon
R09	EP14X196	180K ohm, 5%, ¼W, Carbon
R10	EP14X125	47K ohm, 5%, ¼W, Carbon
R11	EP14X125	47K ohm, 5%, ¼W, Carbon
R12	Common	9.1K ohm, 5%, ¼W, Carbon
R13	ES14X71	1K ohm, 5%, ¼W, Carbon
R15	EP14X289	430 ohm, 5%, ¼W, Carbon
R16	EP14X289	430 ohm, 5%, ¼W, Carbon
R18	EP14X288	13K ohm, 5%, ¼W, Carbon
R19	Common	30K ohm, 5%, ¼W, Carbon
R20	EP14X188	15 ohm, 5%, ¼W, Carbon
R22	EP14X104	22K ohm, 5%, ¼W, Carbon
R23	ES14X59	560 ohm, 5%, ¼W, Carbon
R24	Common	91 ohn, 5%, ¼W, Carbon
R27	EP14X187	100 ohm, 5%, ¼W, Carbon
R28	ES14X57	390 ohm, 5%, ¼W, Carbon
R30	EP14X281	24 ohm, 5%, 1W, Metal Oxide
R31	EP14X103	10K ohm, 5%, ¼W, Carbon
R32	Common	24K ohm, 5%, ¼W, Carbon

CONTINUED

ET91 CONTROL BOARD (Cont.)

INTEGRATED CIRCUIT

IC10	EP84X61	PLL Freq. Syn.
IC20	EP84X113	256 W/Pre Amp.

CRYSTALS

X24	EP41X68	Quartz Filter

DIODES

Y04	EP16X32	Zener
Y29	EP16X146	Zener
Y30	EP16X19	Zener

TRANSISTORS

Q08	EP15X89	NPN, Regulator
Q12	EP15X88	NPN, Amplifier
Q24	EP15X104	HF, Bi Polar
Q28	EP15X25	NPN, Amplifier

ET91 RESISTOR BOARD M-S (TOP)

EP93X294

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
SR105	ES14X59	560 ohm, 5%, 1/4W, Carbon
SR110	ES14X59	560 ohm, 5%, 1/4W, Carbon
SR115	ES14X59	560 ohm, 5%, 1/4W, Carbon
SR120	ES14X59	560 ohm, 5%, 1/4W, Carbon
SR125	ES14X59	560 ohm, 5%, 1/4W, Carbon
SR130	ES14X59	560 ohm, 5%, 1/4W, Carbon
SR135	ES14X59	560 ohm, 5%, 1/4W, Carbon
SR160	ES14X59	560 ohm, 5%, 1/4W, Carbon
SR165	ES14X59	560 ohm, 5%, 1/4W, Carbon
SR170	ES14X59	560 ohm, 5%, 1/4W, Carbon
SR175	ES14X59	560 ohm, 5%, 1/4W, Carbon
SR180	ES14X59	560 ohm, 5%, 1/4W, Carbon
SR185	ES14X59	560 ohm, 5%, 1/4W, Carbon
SR190	ES14X59	560 ohm, 5%, 1/4W, Carbon

MISCELLANEOUS

RL201	EP8X40	Connector—9 pin
RL202	EP8X40	Connector—9 pin
W10	EP8X30	Connector - 1 pin

DISASSEMBLY

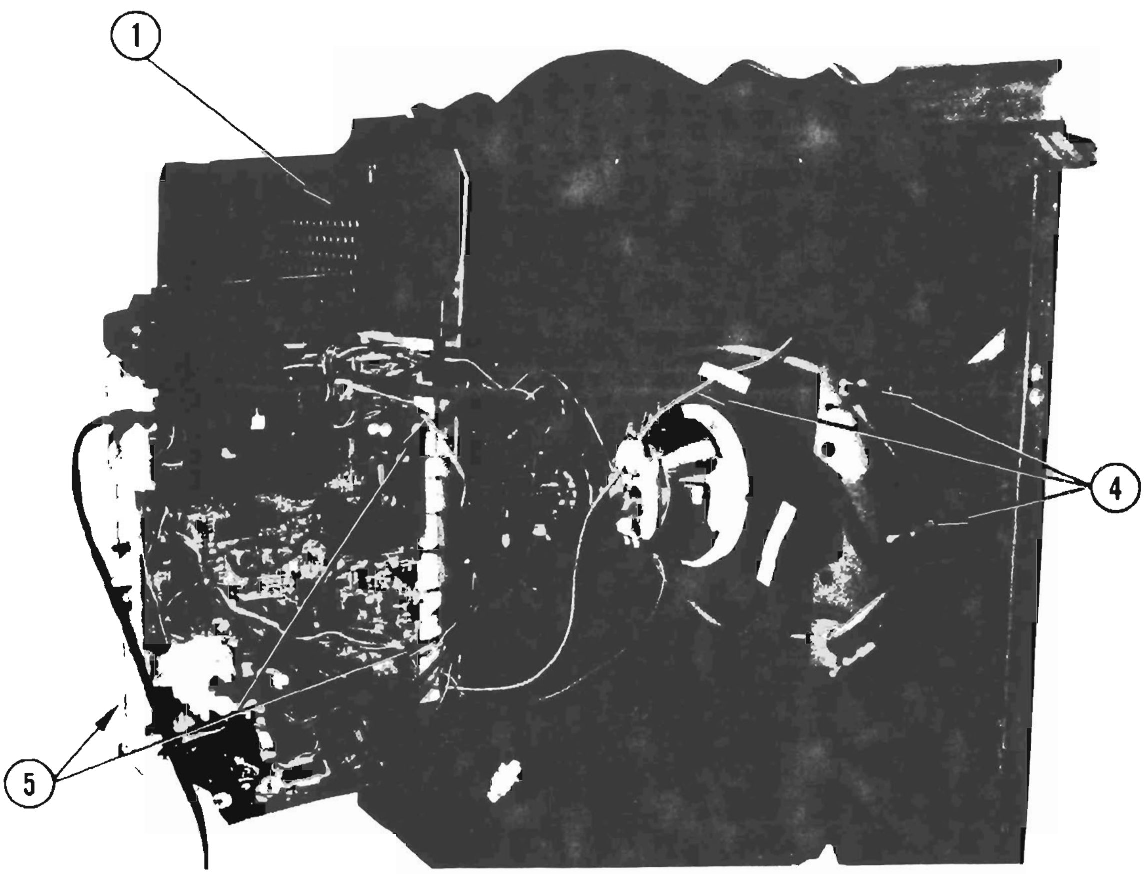
CONTINUED

25PC SERVICE POSITION

The following procedure should be used when putting the 25PC Chassis into its Service Position:
CAUTION*Unplug receiver before proceeding!**

1. Remove cabinet back and re-mount it to the left of the cabinet as shown below.
2. Remove the two chassis mounting screws (located on each side, near cabinet rear).
3. Unplug the ground lead connected to the CRT mounting strap.
4. Remove 2nd anode lead from wire ties.
5. Turn chassis vertically (copper side of PCB facing left) and insert chassis in the slots provided on the cabinet back as shown below.

Once in the service position, the technician has access to both the component side and copper side of the PCB board.



25PC CHASSIS SERVICING POSITION

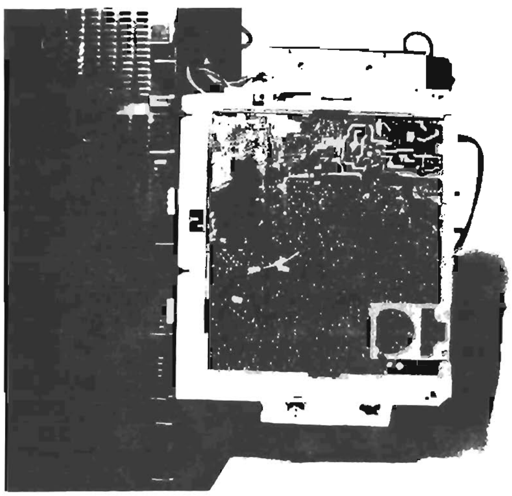
DISASSEMBLY

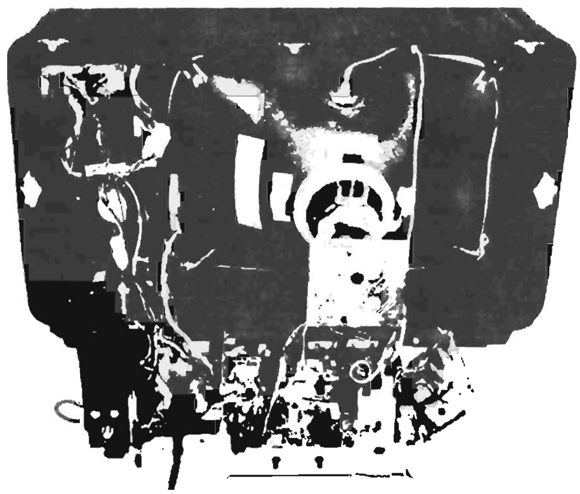
19PC CHASSIS SERVICE POSITION

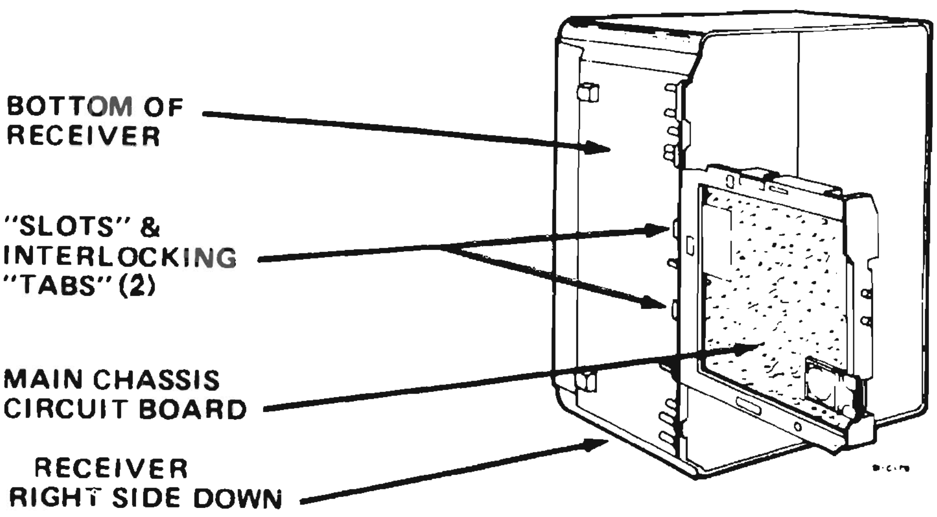
The following procedure should be used when putting the PC Chassis into its Service Position:

CAUTION*Unplug receiver before proceeding!**

1. Disconnect Antenna leads.
2. Remove cabinet back screws.
3. Remove cabinet back.
4. Release the Main Circuit board by pressing down on the two "quick release" locking clips located at the bottom rear of the cabinet.
5. Slide the Main Circuit board out of the cabinet.
6. Place the receiver on its right side (looking from rear of set).
7. Insert the Main Circuit board into the two "slots" (see Pictorial below) at the bottom of the cabinet, and lock into Service Position.







25 PC CHASSIS

112 Channel

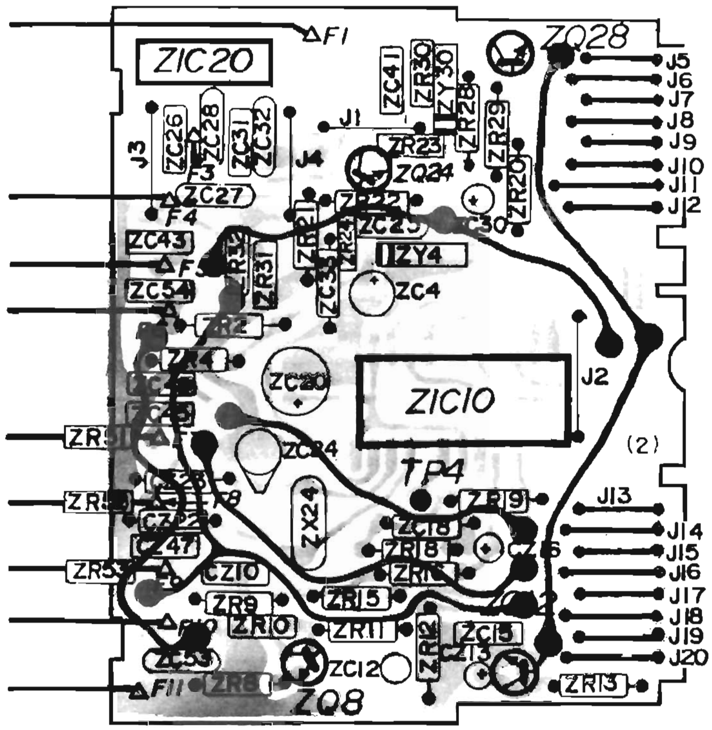
ELECTRONIC TUNING SYSTEMS

ET91 SINGLE KNOB ELECTRONIC TUNING SYSTEM WITH 112 CH. "CHIP" TUNER

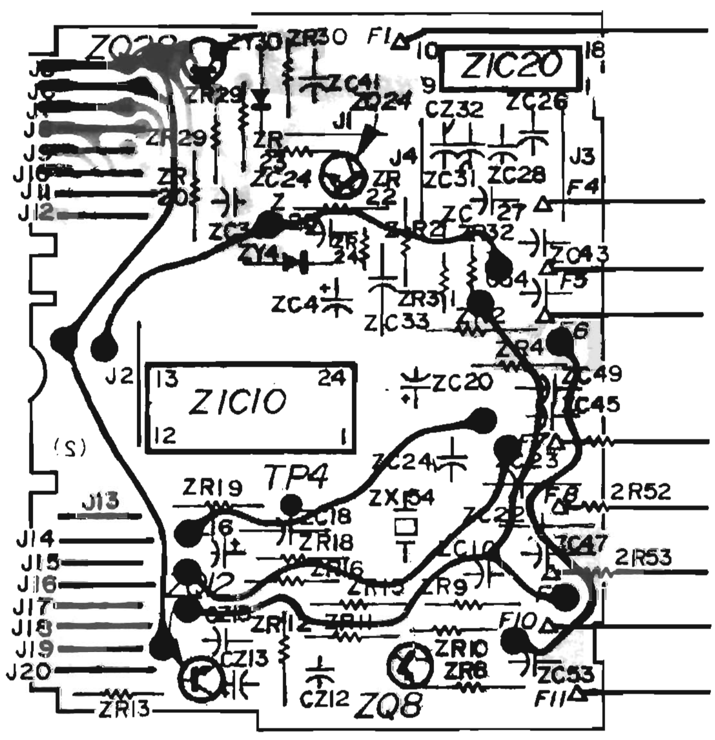
KMP112 RANDOM ACCESS KEYBOARD ELECTRONIC TUNING SYSTEM

LMP112 REMOTE CONTROL SCAN PROGRAMMABLE ELECTRONIC TUNING SYSTEM

ET91 CONTROL BOARD (w/PRESCALER)
EP93X407



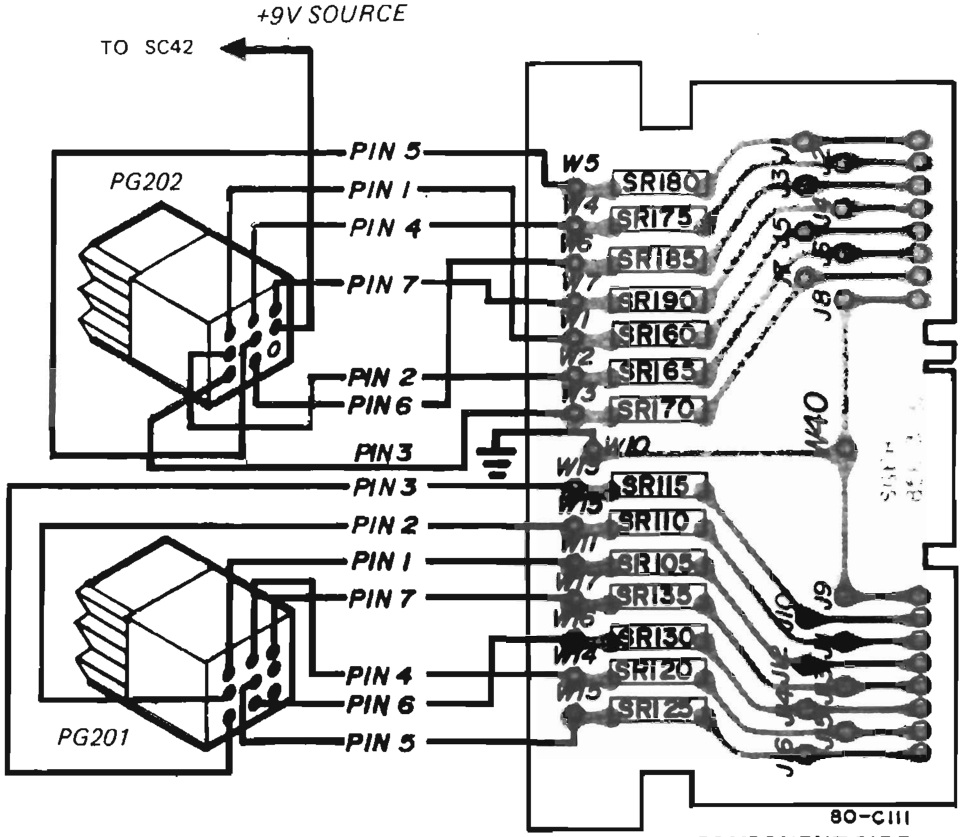
COMPONENT SIDE



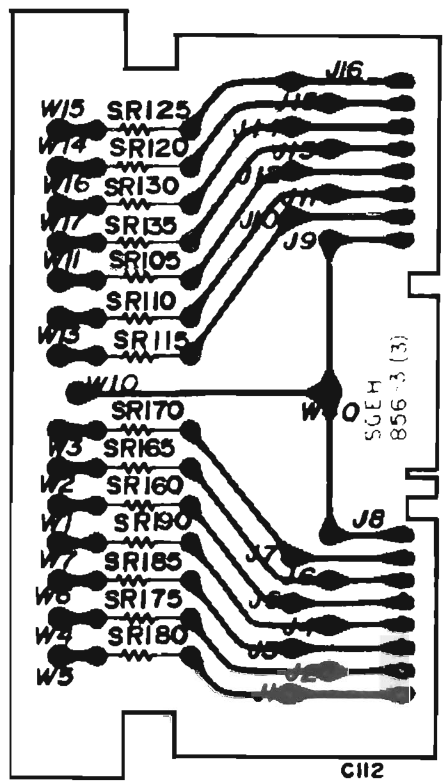
COPPER SIDE

ET91 RESISTOR BOARD

EP93X406



COMPONENT SIDE



COPPER SIDE

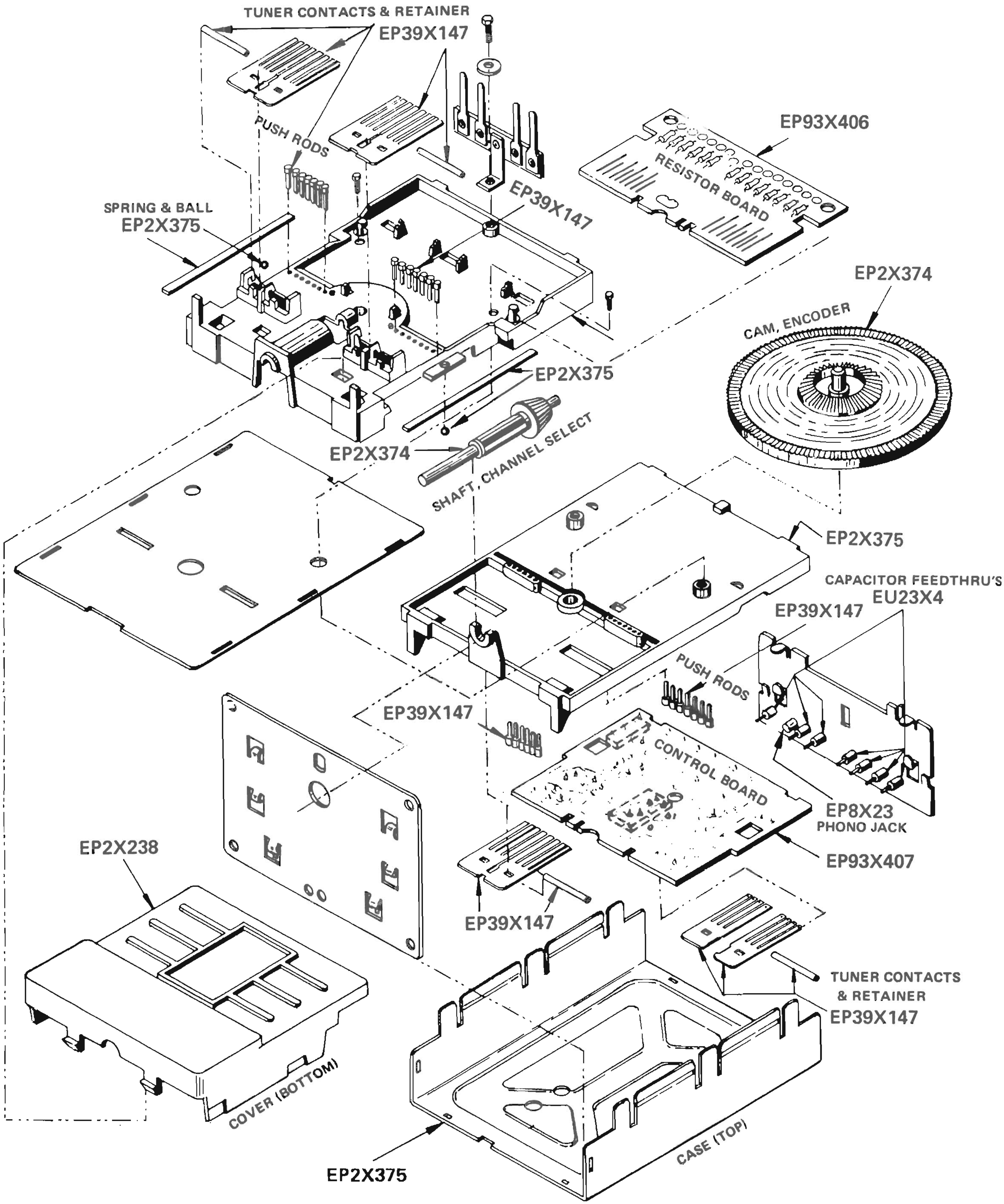
ET91 SWITCH TRUTH TABLES

0 = OPEN   1 = CLOSED

TUNER CONTROL POSITION (12 11 10 9 8 7 6 5 4 3 2 1)	CHANNEL	READ OUT CONTROL POSITION (14 13 12 11 10 9 8 7 6 5 4 3 2 1)
1 0 1 0 1 0 0 0 0 1 0 0	2	0 0 0 0 0 0 0 0 1 1 1 0 1 1
0 0 1 0 1 0 0 0 0 1 1 1	3	0 0 0 0 0 0 0 1 1 1 1 0 1 0
0 1 1 0 1 0 0 0 0 1 0 0	4	0 0 0 0 0 0 0 1 1 0 1 1 0 0
0 1 1 0 1 0 0 0 0 1 1 1	5	0 0 0 0 0 0 0 1 0 1 1 1 1 0
0 0 0 0 1 0 0 0 1 0 0 0	6	0 0 0 0 0 0 0 1 0 1 1 1 1 1
1 1 1 0 1 1 0 0 1 0 1 0	7	0 0 0 0 0 0 0 1 1 1 0 0 0 0
0 0 1 0 1 1 0 0 1 1 0 1	8	0 0 0 0 0 0 0 1 1 1 1 1 1 1
0 0 1 0 1 1 0 0 1 1 1 0	9	0 0 0 0 0 0 0 1 1 1 1 1 1 0
1 0 1 0 1 1 0 0 1 1 1 1	10	0 0 0 0 0 1 1 1 1 1 0 1 1 1
1 1 1 0 1 1 0 0 1 1 0 0	11	0 0 0 0 0 1 1 1 1 0 0 0 0 0
0 1 1 0 1 1 0 0 1 1 1 1	12	0 0 0 0 0 1 1 0 1 1 1 0 1 1
0 0 0 0 1 1 0 1 0 0 0 0	13	0 0 0 0 0 1 1 1 1 1 1 0 1 0
1 0 0 1 0 1 1 0 0 0 0 0	14	0 0 0 0 0 1 1 1 1 0 1 1 0 0
0 0 0 1 0 1 1 0 0 0 1 1	15	0 0 0 0 0 1 1 1 0 1 1 1 1 0
0 1 0 1 0 1 1 0 0 0 0 0	16	0 0 0 0 0 1 1 1 0 1 1 1 1 1
1 1 0 1 0 1 1 0 0 0 0 1	17	0 0 0 0 0 1 1 1 1 1 0 0 0 0
1 1 0 1 0 1 1 0 0 0 1 0	18	0 0 0 0 0 1 1 1 1 1 1 1 1 1
0 0 0 1 0 1 1 0 0 1 0 1	19	0 0 0 0 0 1 1 1 1 1 1 1 1 0
0 0 0 1 0 1 1 0 0 1 1 0	20	1 1 0 1 1 1 0 1 1 1 0 1 1 1
1 0 0 1 0 1 1 0 0 1 1 1	21	1 1 0 1 1 1 0 1 1 0 0 0 0 0
1 1 0 1 0 1 1 0 0 1 0 0	22	1 1 0 1 1 1 0 0 1 1 1 0 1 1
0 1 0 1 0 1 1 0 0 1 1 1	23	1 1 0 1 1 1 0 1 1 1 1 0 1 0
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0 0 1 1 0 1 1 0 1 0 1 1	47	0 0 1 1 0 1 1 1 1 1 0 0 0 0

TUNER CONTROL POSITION (12 11 10 9 8 7 6 5 4 3 2 1)	CHANNEL	READ OUT CONTROL POSITION (14 13 12 11 10 9 8 7 6 5 4 3 2 1)
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0 1 1 1 0 1 1 0 1 1 1 1	55	0 1 1 1 1 0 1 1 0 1 1 1 1 0
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ET91 CONTROL ASSEMBLY (EP93X404) EXPLODED VIEW

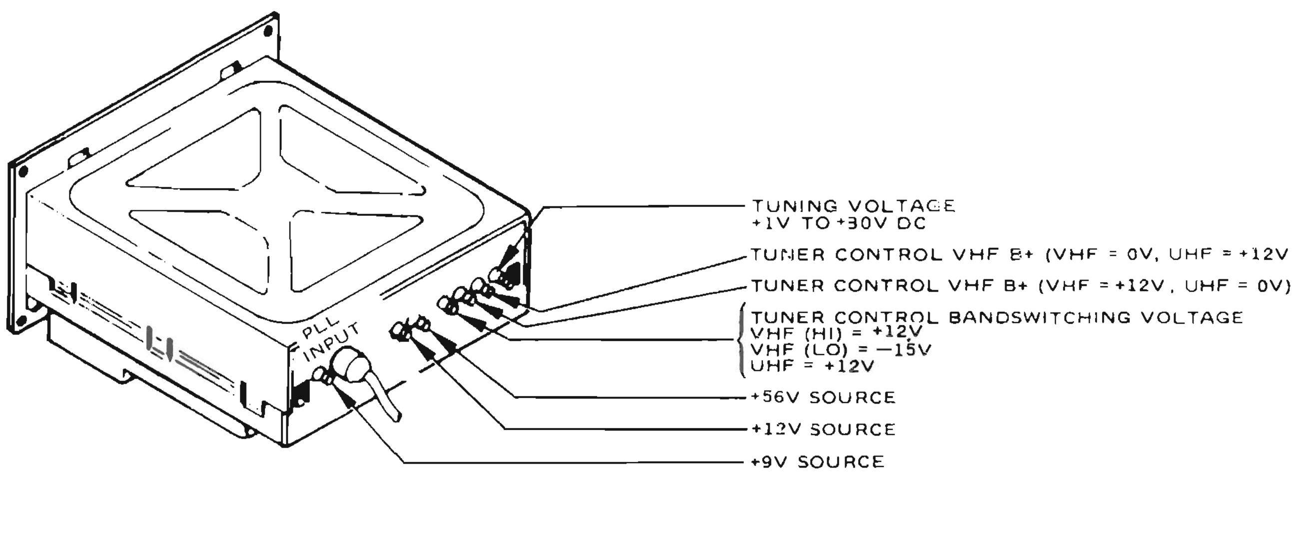


ET91 CONTROL ASSEMBLY (EP93X404) EXPLODED VIEW

ET91 TUNING SYSTEM TROUBLESHOOTING CHART

SYMPTOM	PROBABLE CAUSE	TROUBLESHOOTING PROCEDURE
NO VIDEO, SNOW, MISSING CHANNELS, ETC	MOST LIKELY –Loss of a B+ supply to the tuning system –IC10 ···Located in the TUNER CONTROL AND SELECTOR SWITCH ASM. MODULE –TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE –UHF/VHF TUNER LEAST LIKELY	1 Measure B+ voltages to the tuning system. If the voltages are not correct go to the main chassis service information sheet and continue. 2 If B+ voltages are correct measure the tuning and tuner control voltages from the TUNER CONTROL ASSEMBLY to the TUNER. If the voltages are all correct the TUNER should be suspected next. 3 If the tuning voltage does not change when channels are selected IC10 is most likely at fault. If tuner control voltages are not correct the TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE is the most likely suspect.

SYMPTOM	PROBABLE CAUSE	TROUBLESHOOTING PROCEDURE
CHANNEL NUMBER INDICATOR WILL NOT LIGHT·····OR SEGMENTS ARE MISSING	MOST LIKELY –CHANNEL NUMBER INDICATOR –TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE LEAST LIKELY	1 Turn the channel selector to differently numbered channels – observe if all segments of the readout will light. EXAMPLE: An "8 digit" should light all seven segments of one side of the display. If the "8" digit can be made to appear on each of the dual readouts, then the TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE is defective. 2 If one or more segments refuse to light, then compare voltage and/or resistance readings of lighted segments to those of the missing ones. Comparative readings should identify either the CHANNEL NUMBER INDICATOR or TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE.



ET91 TUNER CONTROL VOLTAGE CHECK POINTS

GENERAL ELECTRIC

LMP112 TUNING SYSTEM TROUBLESHOOTING INFORMATION

General: In order to troubleshoot the 112 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

POWER SUPPLIES

1. Do not unplug, but do check all voltages at RL/PG247. (Check +15V only if IC regulator is included with tuner control module).
2. Check RL231, pin 1 for 30 to 38VAC (supply for non-volatile memory B minus (-)25V supply).
3. Check RL225, pin 1 for ON/OFF Relay B+ 13 to 17VDC.
4. Check RL245, pin 1 for Remote Receiver B+ 7.5 to 8.5 VDC.

NOTE:

RL225 Pin 1, +15 V must be correct before the set will switch on. If supplies are OK, the On/OFF relay may be forced on by grounding pin 2 of RL/PG225 through a 100 ohm, ½ watt resistor. Replace Q614 if necessary, otherwise inspect TV power supplies.

5. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

TROUBLESHOOTING ORDER

In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check:

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC800 (EAROM)
6. IC500 (PLL CHIP)

CATEGORIZED SYMPTOMS

- No Remote control (Keyboard works OK). (Note. LMP/MP Keyboard follows favorite/sequential action of transmitter 5 button keybd.)
  Check Transmitter
- Dark Raster (LED Readout Display OK)
  Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
  Check Bandswitch Transistors
- No Channel, No Keyboard or Remote operation with Relay forced ON (LMP)
  Check Microprocessor (IC601)
- No Last Channel or Favorite Channel Memory during power failure.
  Check IC800
- Readout Display OK, but Channels Off-Frequency
  Check Bandswitch voltage, if OK, check IC500 (PLL Chip).

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry.

Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED TO LMP ELECTRONIC TUNING TROUBLESHOOTING FOR POSSIBLE SOLUTION TO THE PROBLEM.

▼U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH.1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

112 CHANNEL ELECTRONIC TUNING SYSTEMS "BANDSWITCHING VOLTAGE CHART"

RECEIVING BAND	LO-VHF (CHANNEL 2-6) BAND I	HI-VHF (CHANNEL 7-13) & MIDBAND (CHANNEL 14-22 or A-I) BAND II	SUPERBAND (CHANNEL 23-36 or J-W) BAND III	HYPERBAND (CHANNEL 37-57) BAND IV
SW1 +/-10%	-15V	-15V	+9V	-15V
SW2 +/-10%	-15V	+9V	+9V	+9V
VHF RF & OSC B+ +/-10%	+12V	+12V	+12V	0V
MIXER B+ +/-10%	+12V	+12V	+12V	+12V
UHF B+ +/-10%	0V	0V	0V	+12V
AGC @ MAX GAIN	8.8V	8.8V	8.8V	8.8V
TUNING VOLTAGE	0-30	0-30	0-30	0-30

112 CHANNEL UHF/VHF TUNER "BANDSWITCHING VOLTAGE CHART"

GENERAL ELECTRIC

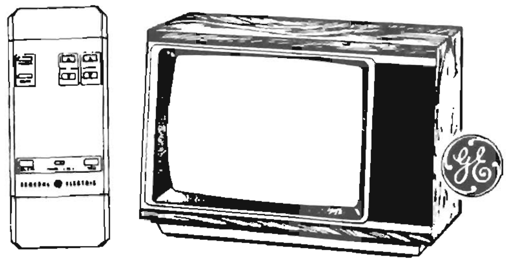
CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

PC CHASSIS
19PF6744J03

SERVICE INFORMATION — **PC CHASSIS MODEL PAGE**

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	LMP1B-130
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X574
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X209
REMOTE POWER RELAY BOARD:	EP93X544
SPEAKER:	32 ohm, 4" EP95X14
LMP1B-130 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9244-85



19PF6744

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X508	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X537	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X547	ESCUTCHEON-Upper Controls, Black
EP89X596	GRILLE CLOTH-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground
EP4X548	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

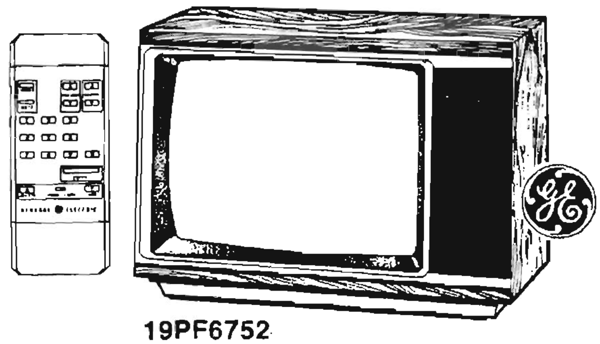
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GENERAL ELECTRIC
CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

PC CHASSIS
19PF6752J03

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	MP1B-112
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X575
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X208
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
SPEAKER:	32 ohm, 4" EP95X14
MP1B-112 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9252-85



19PF6752

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X525	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X115	BRACKET-Keyboard Mounting, Plastic
EP99X536	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X554	DOOR-Keyboard Access
EP89X599	ESCUTCHEON-Upper Controls, Black, Plastic
EP89X600	GRILLE CLOTH-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground
EP4X484	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

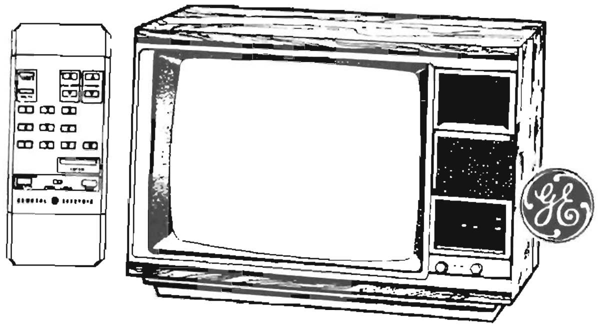
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PORTSMOUTH, VA 23705

PC CHASSIS
19PF6754J01

SERVICE INFORMATION — PC CHASSIS MODEL PAGE



19PF6754

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	MP1-112
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X575
AM/FM RADIO CIRCUIT BOARD:	EP93X545
BATTERY: Nickel Cadmium	EP58X3
RADIO POWER SUPPLY/KEYBOARD ASM:	EP93X549
RELAY CIRCUIT BOARD:	EP93X594
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X206
SPEAKER: 32 ohm, 4"	EP95X14
MP1-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9254-85

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast, Push
KSW05	EP39X206	SWITCH-Clock Slow, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
S1	EP39X212	SWITCH-AM/FM, Slide Type
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X221	VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP47X65	CLOCK ALARM SET, FAST/SLOW, & ALARM ON/TIME SET-Chrome
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black
EP47X64	TV/RADIO & ON/OFF CLOCK ALARM-Chrome
EP43X461	RADIO-Vol., Black W/Chrome Cap, W/Retainer
EP43X462	RADIO-Tuning, Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X72	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X508	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X122	BRACKET-Radio/Clock Support, Plastic
EP92X133	BRACKET-Keyboard Mounting, Plastic
EP99X507	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP41X147	CLOCK/TIMER READOUT DISPLAY
EP89X601	ESCUTCHEON-Clock/Radio
EP89X577	GRILLE CLOTH-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP2X613	POINTER-Station Indication, Lexan
EP4X455	RADIO DIAL SCALE-Lexan
EP3X53	SPRING-CRT Ground
EP4X556	WINDOW-Channel Readout, Black, Plastic

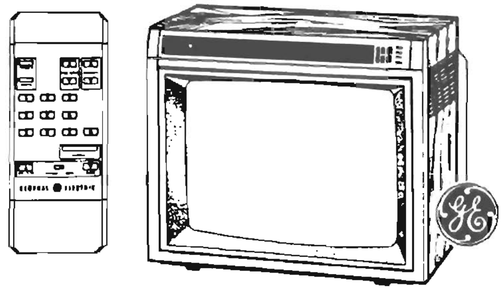
GENERAL ELECTRIC

CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

**PC CHASSIS
19PF6755J03**

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	MP1-130
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X574
COLOR MONITOR SWITCH BOARD:	EP93X635
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X208
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 16 ohm, 3"	EP95X54
MP2-130 TUNER CONTROL BOARD:	EP93X541



19PF6755

EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X568	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X499	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X499	PICTURE-10K ohm, 20%, Detent
R4300	EP49X491	TINT-10K ohm, 20%
R4301	EP49X491	COLOR-10K ohm, 20%
SW14	EP39X207	SWITCH-Color Monitor, Push
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X227	ON/OFF, VOL., & CHANNEL SELECT-W/Readout Display

KNOBS

PART NO.	DESCRIPTION
EP47X60	COLOR, TINT, BRIGHTNESS, & PICTURE-Black W/Retainer
EP47X61	BUTTON-Color Monitor, Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X141	BRACKET-Speaker Mounting, Plastic
EP92X142	BRACKET-Remote Receiver Board Mounting, Plastic
EP92X143	BRACKET-Escutcheon Mounting, Plastic
EP99X540	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X555	DOOR-Keyboard Access, Black, Plastic
EP2X653	DOOR CATCH-Lexan
EP2X652	DOOR HINGES-Lexan, Qty 2
EP54X258	DOOR LABEL-For Controls, Plastic
EP89X603	ESCUTCHEON-Upper Controls, Black, Plastic
EP54X258	OVERLAY-For Inside Control Door (Label)
EP3X56	SPRING-CRT Ground
EP3X60	SWITCH PAD-Cushion

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	MP1-130
PICTURE TUBE:	★ A48ACE40X
UHF/VHF TUNER:	★ EP93X574
COLOR MONITOR/STEREO SWITCH BOARD:	EP93X634
DECODER CIRCUIT BOARD:	EP93X623
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X207
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
STEREO AMPLIFIER CIRCUIT BOARD:	EP93X622
SPEAKER: 16 ohm, 3"	EP95X54
MP1-130 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9256-85

CONTROLS

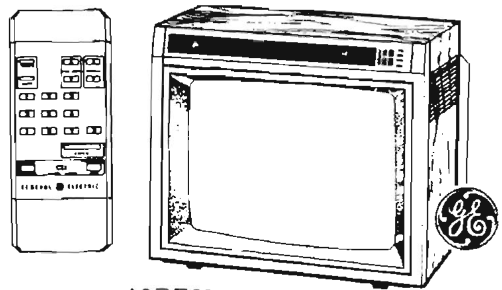
REF. NO.	PART NO.	DESCRIPTION
R4150	EP49X492	BALANCE-15K ohm, 20%
R4155	EP49X492	BASS-15K ohm, 20%
R4160	EP49X492	TREBLE-15K ohm, 20%
R4220	EP49X499	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X499	PICTURE-10K ohm, 20%, Detent
R4300	EP49X491	TINT-10K ohm, 20%
R4301	EP49X491	COLOR-10K ohm, 20%
SW10	EP39X207	SWITCH-Stereo/Mode, Push
SW14	EP39X207	SWITCH-Color Monitor, Push
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X228	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP47X60	COLOR, TINT, BRIGHTNESS, & PICTURE-Black
EP47X60	TREBLE, BASS, & BALANCE-Black
EP47X61	STEREO & COLOR MONITOR-Black



19PF6756

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP92X145	BRACKET-Antenna Terminal, Plastic
EP4X565	BRACKET-Antenna Hole Cover
EP98X568	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP8X127	JACK-Audio Output, Phono Type, J01 & J02

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X141	BRACKET-Speaker Mounting, Plastic
EP92X143	BRACKET-Escutcheon Mounting, Plastic
EP92X142	BRACKET-Remote Receiver Mounting, Plastic
EP99X543	CABINET FRONT-Rosewood Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X555	DOOR-Keyboard Access
EP2X653	DOOR CATCH
EP2X652	DOOR HINGES
EP54X259	DOOR LABEL-Inside Controls, Black, Plastic
EP89X602	ESCUTCHEON-Upper Controls, Black, Plastic
EP8X127	JACK-Phono Type, J01 & J02
EP54X259	OVERLAY-Label For Inside Door, Black, Plastic
EP3X56	SPRING-CRT Ground
EP3X60	SWITCH PAD-Foam

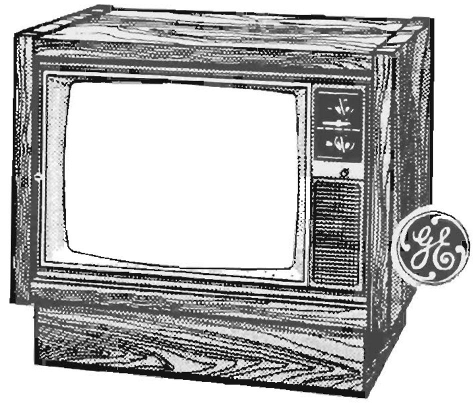
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CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	Direct
PICTURE TUBE:	★A63ABZ26X
VHF TUNER:	★EP86X88
UHF TUNER:	★EP85X76
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL:	29-9602-85



25PF6802

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★R4194	EP49X477	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KNOBS

PART NO.	DESCRIPTION
EP43X338	ON/OFF, VOL.-Black, W/Retainer
EP43X434	VHF SELECTOR-Black, W/Retainer
EP43X437	VHF FINE TUNE-Black, W/Retainer
EP43X454	VHF READOUT-Black, W/Retainer
EP43X435	UHF SELECTOR-Black, W/Retainer
EP43X436	UHF FINE TUNE-Black, W/Retainer
EP43X439	UHF READOUT-Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X59	ANTENNA TERMINAL BOARD-Complete
EP98X572	CABINET BACK-Hardboard
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X141	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X649	BRACKET-CRT Corner Mounting, Plastic
EP99X423	CABINET FRONT-Oak Woodgrain, Plastic
EP91X80	DOOR-Grille
EP2X376	DOOR CATCH
EP2X614	DOOR HANDLE
EP2X554	DOOR HINGE
EP89X468	ESCUTCHEON-UHF/VHF, Bronze, Lexan
EP4X354	LENS-UHF & VHF Readout, Plastic
EP4X376	OVERLAY-Secondary Controls,
EP41X128	PILOT LIGHT-UHF/VHF Channel Readout
EP1X33	RIVET-Door Hinge, Plastic
EP3X56	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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GENERAL ELECTRIC
CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

PC CHASSIS
25PF6812J01
25PF6813J013

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	KMP-112
PICTURE TUBE:	★A63ABZ26X
UHF/VHF TUNER:	★EP93X575
RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMP-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9612-85

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
★S4000	EP39X221	SWITCH-ON/OFF
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

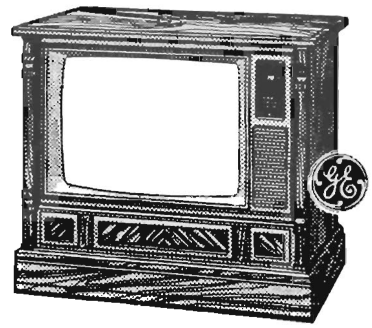
PART NO.	DESCRIPTION
EP62X230	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

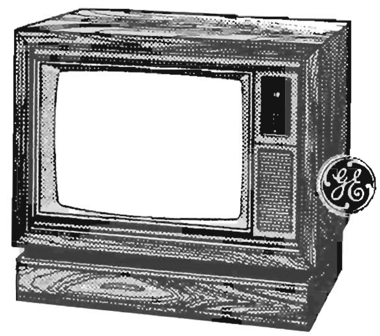
PART NO.	DESCRIPTION
EP43X447	ON/OFF-Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD- Complete
EP98X573	CABINET BACK-Hardboard (25PF6812)
EP98X574	CABINET BACK-Hardboard (25PF6813)
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X74	TUBE CAP-CRT Cover, Black Plastic (25PF6812)
EP91X141	TUBE CAP-CRT Cover, Black, Plastic (25PF6813)



25PF6812



25PF6813

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X649	BRACKET-CRT Corner Mounting, Plastic
EP99X461	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X80	DOOR-Grille, Oak Woodgrain, Plastic
EP2X376	DOOR CATCH
EP2X614	DOOR HANDLE-Plastic
EP2X554	DOOR HINGE
EP1X33	DOOR PIN-Hinge, Rivet, Plastic
EP89X610	ESCUTCHEON-Upper Controls, Oak Woodgrain, Plastic
EP4X376	OVERLAY-Secondary Controls
EP3X40	RETAINER-LED Spring
EP3X56	SPRING-CRT Ground

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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GENERAL ELECTRIC

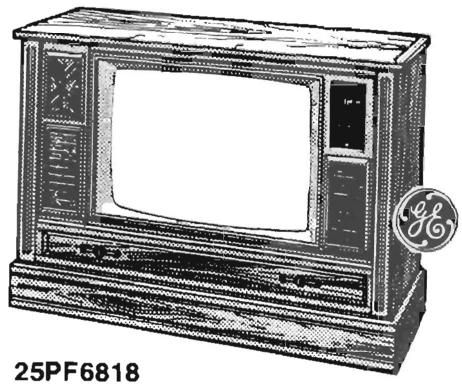
CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

PC CHASSIS
25PF6818

SERVICE INFORMATION — **PC CHASSIS MODEL PAGE**

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	KMP-112
PICTURE TUBE:	★A63ABZ26X
UHF/VHF TUNER:	★EP93X575
DECORDER CIRCUIT BOARD:	EP93X623
RELAY CIRCUIT BOARD:	EP93X544
STEREO CIRCUIT BOARD:	EP93X622
SPEAKER: 32 ohm, 4"	EP95X52
KMP-112 TUNER CONTROL BOARD:	EP93X629
USER'S MANUAL:	29-9618-85



25PF6818

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4155	EP49X510	BASS-15K ohm, 20%
R4160	EP49X510	TREBLE-15K ohm, 20%
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP43X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
★S4000	EP39X221	SWITCH-On/Off
S4001	EP39X53	SWITCH-Bilingual
S4002	EP39X53	SWITCH-Stereo/Mono
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X230	ON/OFF, VOL., & CHANNEL SELECT

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP98X575	CABINET BACK-Hardboard
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X141	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X649	BRACKET-CRT Corner Mounting, Plastic
EP99X547	CABINET FRONT-Black, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X145	DOOR-W/Grille Cloth, Oak Woodgrain, Plastic
EP2X376	DOOR CATCH
EP2X554	DOOR HINGE
EP1X33	DOOR PIN-Hinge, Rivet, Plastic
EP89X611	ESCUTCHEON-Upper Controls, Oak Woodgrain
EP4X558	OVERLAY-Secondary Controls, Black
EP41X14	PILOT LIGHT-Red, Y4001 & Y4003
EP1X46	RETAINER-Speaker Mounting Fastener (4 Used)
EP3X40	RETAINER-LED Spring
EP34X72	SOCKET-L.E.D.
EP3X56	SPRING-CRT Ground

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X181	PULL-Decorative (Order 2)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

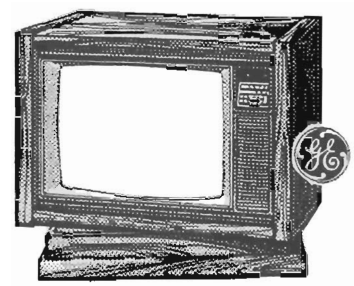
IMPORTANT SAFETY NOTICE

[illegible]

PC CHASSIS
25PF6830J01
25PF6831J01
25PF6832J01

CHASSIS AND ASSEMBLY PARTS LIST

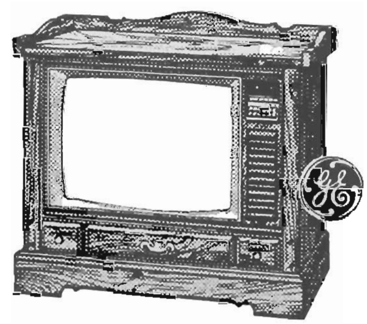
CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	KMPS-112
PICTURE TUBE:	★ A63ABZ40X
UHF/VHF TUNER:	★ EP93X575
RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMPS-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9630-85



25PF6830

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type



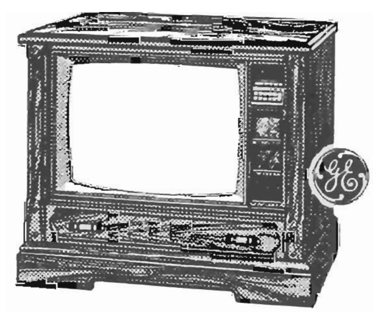
25PF6831

KEYBOARD

PART NO.	DESCRIPTION
EP62X225	ON/OFF, VOL., & CHANNEL SELECT

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP98X576	CABINET BACK-Hardboard (25PF6830)
EP98X577	CABINET BACK-Hardboard (25PF6831)
EP98X578	CABINET BACK-Hardboard (25PF6832)
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X141	TUBE CAP-CRT Cover, Black Plastic (25PF6830)
EP91X74	TUBE CAP-CRT Cover, Black, Plastic (25PF6831/6832)



25PF6832

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X649	BRACKET-CRT Corner Mounting, Plastic
EP92Z146	BRACKET-Keyboard Mounting, Plastic
EP99X520	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X129	DOOR-Grille, Oak Woodgrain, Plastic (25PF6830)
EP91X130	DOOR-Grille, Oak Woodgrain, Plastic (25PF6831)
EP91X131	DOOR-Grille, Oak Woodgrain, Plastic (25PF6832)
EP4X468	DOOR BUMPER
EP78X66	DOOR HANDLE
EP2X626	DOOR HINGE
EP1X33	DOOR PIN-Hinge, Rivet, Plastic
EP89X612	ESCUTCHEON-Upper Controls, Oak Woosgrain, Plastic
EP4X514	OVERLAY-Secondary Controls
EP3X56	SPRING-CRT Ground

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X85	KNOB-Decorative (Order 2) (25PF6831)
EP4X121	PULL-Decorative (25PF6831)
EP4X53	PULL-Decorative (Order 2) (25PF6832)

GENERAL ELECTRIC

CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

PC CHASSIS
25PF6841J02/J03

CHASSIS AND ASSEMBLY PARTS LIST

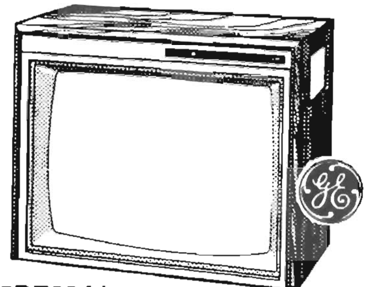
CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	MP1B-112
PICTURE TUBE:	★ A63ABZ40X
UHF/VHF TUNER:	★ EP93X575
REMOTE CONTROL RECEIVER MODULE:	EP93X482 (J02)
REMOTE CONTROL RECEIVER MODULE:	EP93X599 (J03)
REMOTE CONTROL TRANSMITTER:	EP62X197 (J02)
REMOTE CONTROL TRANSMITTER:	EP62X208 (J03)
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
TOP TUNING CIRCUIT BOARD:	EP93X552 (J02)
TOP TUNING CIRCUIT BOARD:	EP93X614 (J03)
SPEAKER: 16 ohm, 4" (2 Used)	EP95X25
MP1B-112 TUNER CONTROL BOARD:	EP93X541 (J02)
MP1B-112 TUNER CONTROL BOARD:	EP93X531 (J03)
USER'S MANUAL:	29-9641-85

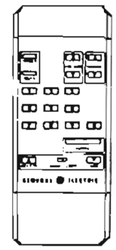
CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X499	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X499	PICTURE-10K ohm, 20%, Detent
R4300	EP49X491	TINT-10K ohm, 20%
R4301	EP49X491	COLOR-10K ohm, 20%
SW01	EP39X150	SWITCH-On/Off, Push (J03)
SW02	EP39X150	SWITCH-Volume Up, Push (J03)
SW03	EP39X150	SWITCH-Volume Down, Push (J03)
SW04	EP39X150	SWITCH-Channel Up, Push (J03)
SW05	EP39X150	SWITCH-Channel Down, Push (J03)
SW07	EP39X207	SWITCH-Color Monitor, Push (J03)
SW4001	EP39X206	SWITCH-On/Off, Push (J02)
SW4002	EP39X206	SWITCH-Volume Up, Push (J02)
SW4003	EP39X206	SWITCH-Volume Down, Push (J02)
SW4004	EP39X206	SWITCH-Channel Up, Push (J02)
SW4005	EP39X206	SWITCH-Channel Down, Push (J02)
SW4012	EP39X207	SWITCH-Color Monitor, Push (J02)
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KNOBS

PART NO.	DESCRIPTION
EPEP47X59	CHANNEL UP/CHANNEL DOWN
EPEP47X61	COLOR MONITOR
EPEP47X60	COLOR, TINT, BRIGHTNESS, & PICTURE-W/Retainer
EPEP47X59	ON/OFF, VOL.-Up/Down





25PF6841

CABINET BACK PARTS

PART NO.	DESCRIPTION
EPEP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EPEP37X68	ANTENNA TERMINAL BOARD-Complete
EPEP98X584	CABINET BACK-Black, Plastic
EPEP2X540	CLEAT-Power Cord Storage
EPES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EPEP4X175	COVER-Service Information, Black, Plastic
EPEP2X635	RETAINER-Push Fastener (2 Used)
EPEP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EPEP2X594	BRACKET-CRT Corner Mounting, Lexan
EPEP99X568	CABINET FRONT-Black, Plastic
EPEP97X114	CABINET WRAP-Wood, W/Vinly Woodgrain
EPEP41X151	CHANNEL NUMBER READOUT DISPLAY-Green
EPEP2X655	CLIP-Speaker Mounting (8 Used)
EPEP91X142	DOOR-Top Tuning, Bronze, Plastic
EPEP2X596	DOOR ARM ASSEMBLY (J02)
EPEP2X619	DOOR ARM ASSEMBLY (J03)
EPEP2X596	DOOR CATCH
EPEP2X593	DOOR HINGES
EPEP2X644	DOOR LATCH
EPEP4X475	DOOR PIN (J02)
EPEP2X656	DOOR PIN (J03)
EPEP89X550	GRILLE-Speaker (2 Used)
EPEP54X253	OVERLAY-Top Tuning
EPEP54X540	OVERLAY-Secondary Controls (J02)
EPEP54X250	OVERLAY-Secondary Controls (J03)
EPEP3X56	SPRING-CRT Ground
EPEP3X54	SWITCH PAD-Foam
EPEP4X481	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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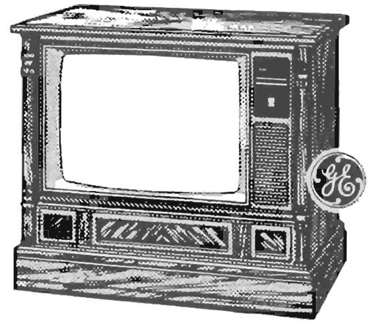
GENERAL ELECTRIC

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PORTSMOUTH, VA 23705

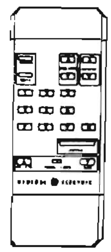
PC CHASSIS
25PF6842J03
25PF6843J03
25PF6846J03

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	MP1B-112
PICTURE TUBE:	★A63ABZ26X
UHF/VHF TUNER:	★EP93X575
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X208
SPEAKER: 32 ohm, 4"	EP95X14
MP1B-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9642-85



25PF6842

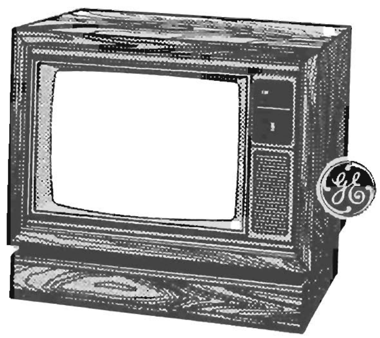


CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

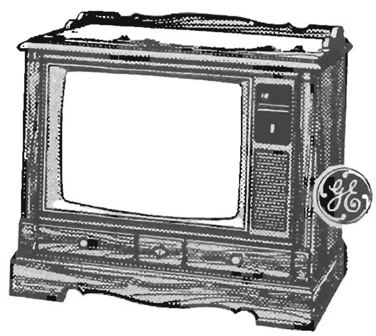
PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT



25PF6843

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD- Complete
EP98X573	CABINET BACK-Hardboard (25PF6842)
EP98X574	CABINET BACK-Hardboard (25PF6843)
EP98X580	CABINET BACK-Hardboard (25PF6846)
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X74	TUBE CAP-CRT Cover, Black, Plastic (25PF6841 & 25PF6846)
EP91X141	TUBE CAP-CRT Cover, Black, Plastic (25PF6843)



25PF6846

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X649	BRACKET-CRT Corner Mounting, Lexan
EP99X459	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X80	DOOR-Grille, Controls Cover, Plastic
EP2X376	DOOR CATCH
EP2X614	DOOR HANDLE
EP2X554	DOOR HINGE
EP89X613	ESCUTCHEON-Upper Controls
EP4X376	OVERLAY-Secondary Controls
EP4X377	OVERLAY-Inlay
EP4X420	OVERLAY-Nameplate
EP1X33	RIVET-Plastic
EP3X56	SPRING-CRT Ground

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X180	DECORATIVE KEYHOLE-(25PF6846)
EP4X85	KNOB-Decorative (Order 2) (25PF6846)

GENERAL ELECTRIC

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PORTSMOUTH, VA 23705

PC CHASSIS
25PF6849J01

CHASSIS AND ASSEMBLY PARTS LIST

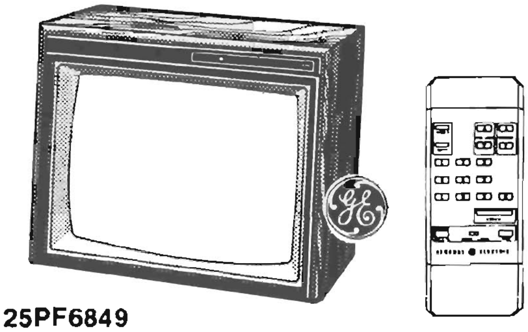
CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	MP1-112
PICTURE TUBE:	★A63ABZ40X
UHF/VHF TUNER:	★EP93X575
DECORDER CIRCUIT BOARD:	EP93X623
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X207
STEREO CIRCUIT BOARD:	EP93X622
TOP TUNING CIRCUIT BOARD:	EP93X615
SPEAKER: 16 ohm 4" (2 Used)	EP95X52
MP1-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9649-85

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4150	EP49X492	BALANCE-15K ohm, 20%
R4155	EP49X492	BASS-15K ohm, 20%
R4160	EP49X492	TREBLE-15K ohm, 20%
R4220	EP49X499	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X499	PICTURE-10K ohm, 20%, Detent
R4300	EP49X491	TINT-10K ohm, 20%
R4301	EP49X491	COLOR-10K ohm, 20%
SW01	EP39X150	SWITCH-ON/Off
SW02	EP39X150	SWITCH-Vol Up
SW03	EP39X150	SWITCH-Vol Down
SW04	EP39X150	SWITCH-Channel Up
SW05	EP39X150	SWITCH-Channel Down
SW06	EP39X207	SWITCH-Color Monitor
SW07	EP39X207	SWITCH-Stereo On/Off
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KNOBS

PART NO.	DESCRIPTION
EP47X60	BASS, BALANCE, & TREBLE
EP47X78	CHANNEL UP/CHANNEL DOWN
EP47X60	COLOR, TINT, BRIGHTNESS, & PICTURE
EP47X61	COLOR MONITOR & STEREO
EP47X78	ON/OFF, VOL. UP/DOWN



25PF6849

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP92X154	BRACKET-Antenna Balun Mounting, Plastic
EP98X584	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X594	BRACKET-CRT Corner Mounting, Lexan
EP99X549	CABINET FRONT-Black, Plastic
EP41X151	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X143	DOOR-Top Tuning, Black, Plastic
EP2X619	DOOR ARM ASSEMBLY
EP2X596	DOOR CATCH
EP2X593	DOOR HINGES
EP2X644	DOOR LATCH ASSEMBLY
EP2X656	DOOR PIN
EP89X550	GRILLE-Speaker (2 Used)
EP54X266	OVERLAY-Top Tuning Controls, Lexan
EP4X512	OVERLAY-Secondary Controls
EP2X655	RETAINER-Speaker Mounting (8 Used)
EP3X56	SPRING-CRT Ground
EP3X54	SWITCH PAD-Foam
EP4X481	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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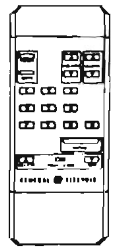
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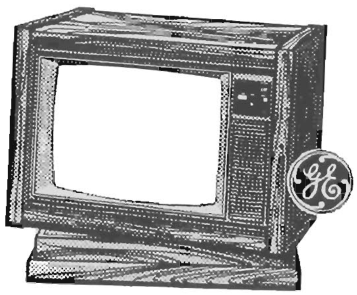
PC CHASSIS
25PF6850J02/J03
25PF6851J03
25PF6852J03

SERVICE INFORMATION — PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	MP1B-112
PICTURE TUBE:	★A63ABZ40X
UHF/VHF TUNER:	★EP93X575
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X208
SPEAKER: 32 ohm, 4"	EP95X14
MP1B-112 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9650-85

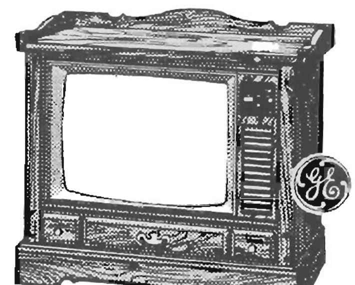




25PF6850

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type



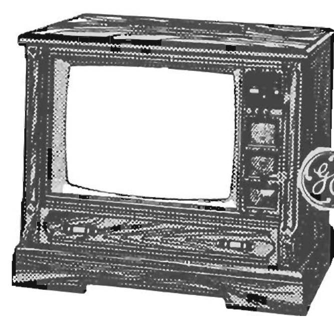
25PF6851

KEYBOARD

PART NO.	DESCRIPTION
EP62X222	ON/OFF, VOL., & CHANNEL SELECT

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP98X576	CABINET BACK-Hardboard (25PF6850)
EP98X577	CABINET BACK-Hardboard (25PF6851)
EP98X578	CABINET BACK-Hardboard (25PF6852)
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X141	TUBE CAP-CRT Cover, Black, Plastic (25PF6850)
EP91X74	TUBE CAP-CRT Cover, Black, Plastic (25PF6851 & 25PF6852)



25PF6852

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X649	BRACKET-CRT Corner Mounting, Lexan
EP92X147	BRACKET-Keyboard Mounting, Plastic
EP99X520	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X129	DOOR-Controls & Speaker Cover
EP4X468	DOOR BUMPER
EP78X66	DOOR HANDLE
EP2X626	DOOR HINGE
EP89X614	ESCUTCHEON-Upper Controls, Black, Plastic
EP4X514	OVERLAY-Secondary Controls (J02)
EP1X33	RIVET-Plastic
EP3X56	SPRING-CRT Ground

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X85	KNOB-Decorative (order 2) (25PF6851)
EP4X121	PULL-Decorative (25PF6851)
EP4X53	PULL-Decorative (Order 2) (25PF6852)

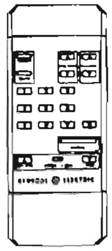
GENERAL ELECTRIC

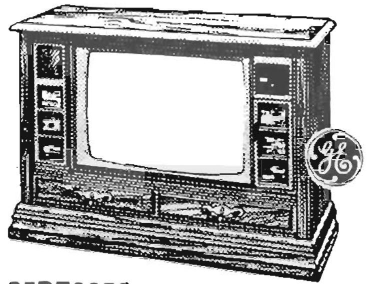
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PORTSMOUTH, VA 23705

PC CHASSIS
25PF6853JO1
25PF6854J01
25PF6855J01

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	MP1-112
PICTURE TUBE:	★A63ABZ40X
UHF/VHF TUNER:	★EP93X575
DECORDER CIRCUIT BOARD:	EP93X623
RELAY CIRCUIT BOARD: Bare	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X207
STEREO CIRCUIT BOARD:	EP93X622
SPEAKER: 16 ohm, 4"	EP95X52
MP1-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9653-85

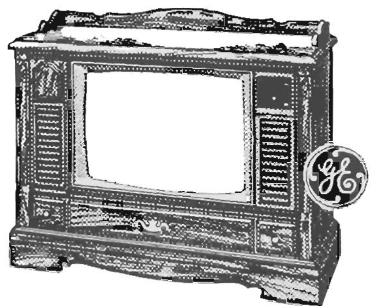




25PF6853

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4155	EP49X510	BASS-15K ohm, 20%
R4160	EP49X510	TREBLE-15K ohm, 20%
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4002	EP39X53	SWITCH-VIR, Slide Type
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type



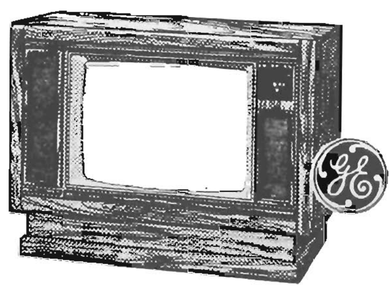
25PF6854

KEYBOARD

PART NO.	DESCRIPTION
EP62X222	ON/OFF, VOL., & CHANNEL SELECT

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP92X154	BRACKET-Antenna Terminal Board, Plastic
EP98X581	CABINET BACK-Hardboard (25PF6853)
EP98X582	CABINET BACK-Hardboard (25PF6854)
EP98X583	CABINET BACK-Hardboard (25PF6855)



25PF6855

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP8X127	JACK-Phono Type
EP91X74	TUBE CAP-CRT Cover, Black, Plastic (25PF6853/256854)
EP91X141	TUBE CAP-CRT Cover, Black, Plastic (25PF6855)

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X649	BRACKET-CRT Corner Mounting, Plastic
EP92X147	BRACKET-Keyboard Mounting, Plastic
EP99X551	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X146	DOOR-Controls & Speaker Cover (25PF6853)
EP91X147	DOOR-Controls & Speaker Cover (25PF6854)
EP91X148	DOOR-Controls & Speaker Cover (25PF6855)
EP4X468	DOOR BUMPER
EP2X626	DOOR HINGE
EP89X615	ESCUTCHEON-Upper Controls, Black, Plastic
EP41X14	PILOT LIGHT-L.E.D, Y4001, Y4003
EP1X46	RETAINER-Speaker Mounting, Fastener (4 Used)
EP1X33	RIVET-Plastic
EP34X72	SOCKET-L.E.D.'s
EP3X56	SPRING-CRT Ground

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X85	KNOB-Decorative (Order 2) (25PF6854)
EP4X188	PULL-Decorative (Order 2) (25PF6853)
EP4X193	PULL-Decorative (25PF6854)

IMPORTANT SAFETY NOTICE

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GENERAL ELECTRIC

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PC CHASSIS
25PF6856J01

CHASSIS AND ASSEMBLY PARTS LIST

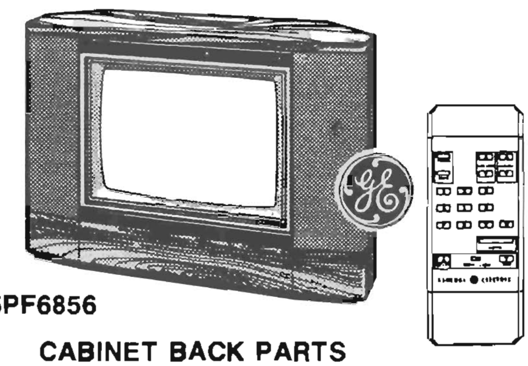
CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	MP1-112
PICTURE TUBE:	★A63ABZ40X
UHF/VHF TUNER:	★EP93X575
DECORDER CIRCUIT BOARD:	EP93X623
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X207
STEREO CIRCUIT BOARD:	EP93X622
TOP TUNING CIRCUIT BOARD:	EP93X615
SPEAKER: 16 ohm, 2" (2 Used)	EP95X57
SPEAKER: 16 ohm, 4" (2 Used)	EP95X52
MP1-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9656-85

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4150	EP49X492	BALANCE-15K ohm, 20%
R4155	EP49X492	BASS-15K ohm, 20%
R4160	EP49X492	TREBLE-15K ohm, 20%
R4220	EP49X499	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X499	PICTURE-10K ohm, 20%, Detent
R4300	EP49X491	TINT-10K ohm, 20%
R4301	EP49X491	COLOR-10K ohm, 20%
SW01	EP39X150	SWITCH-ON/Off
SW02	EP39X150	SWITCH-Vol Up
SW03	EP39X150	SWITCH-Vol Down
SW04	EP39X150	SWITCH-Channel Up
SW05	EP39X150	SWITCH-Channel Down
SW06	EP39X207	SWITCH-Color Monitor
SW07	EP39X207	SWITCH-Stereo On/Off
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KNOBS

PART NO.	DESCRIPTION
EP47X60	BASS, TREBLE, BALANCE
EP47X60	COLOR, TINT, BRIGHTNESS, & PICTURE
EP47X61	COLOR MONITOR & STEREO
EP47X78	ON/OFF, VOL.UP/DOWN & CHANNEL UP/DOWN



25PF6856

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP92X154	BRACKET-Antenna Terminal Board
EP98X584	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP8X127	JACK-Phono Type J01 & J02

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X594	BRACKET-CRT Corner Mounting, Plastic
EP99X552	CABINET FRONT-Black, Plastic
EP41X151	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X143	DOOR-Top Tuning Access, Plastic
EP2X619	DOOR ARM ASSEMBLY
EP2X596	DOOR CATCH
EP2X593	DOOR HINGES
EP2X644	DOOR LATCH
EP2X656	DOOR PIN
EP54X262	OVERLAY-Top Tuning
EP4X512	OVERLAY-Secondary Controls
EP41X14	PILOT LIGHT-L.E.D., Bilingual, Red, TY02
EP14X14	PILOT LIGHT-L.E.D., Stereo, Red, TY03
EP1X46	RETAINER-Speaker Mounting, Fastener (12 Used)
EP3X56	SPRING-CRT Ground
EP3X54	SWITCH PAD-Foam
EP4X481	WINDOW-Sensor

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

GENERAL ELECTRIC

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PORTSMOUTH, VA 23705

PC CHASSIS
25PF6857J01

SERVICE INFORMATION — **PC CHASSIS MODEL PAGE**

CHASSIS AND ASSEMBLY PARTS LIST

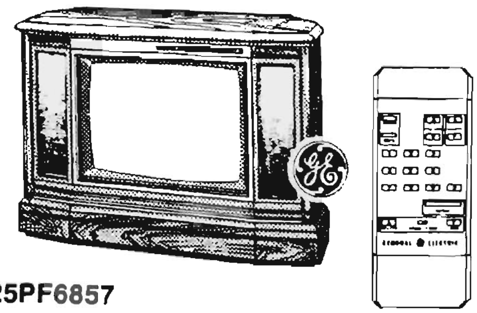
CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	MP1-112
PICTURE TUBE:	★A63ABZ40X
UHF/VHF TUNER:	★EP93X575
DECORDER CIRCUIT BOARD:	EP93X623
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X207
STEREO CIRCUIT BOARD:	EP93X622
TOP TUNING CIRCUIT BOARD:	EP93X615
SPEAKER: 16 ohm, 2" (2 Used)	EP95X57
SPEAKER: 16 ohm, 4" (2 Used)	EP95X52
MP1-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9656-85

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4150	EP49X492	BALANCE-15K ohm, 20%
R4155	EP49X492	BASS-15K ohm, 20%
R4160	EP49X492	TREBLE-15K ohm, 20%
R4220	EP49X499	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X499	PICTURE-10K ohm, 20%, Detent
R4300	EP49X491	TINT-10K ohm, 20%
R4301	EP49X491	COLOR-10K ohm, 20%
SW01	EP39X150	SWITCH-ON/Off
SW02	EP39X150	SWITCH-Vol Up
SW03	EP39X150	SWITCH-Vol Down
SW04	EP39X150	SWITCH-Channel Up
SW05	EP39X150	SWITCH-Channel Down
SW06	EP39X207	SWITCH-Color Monitor
SW07	EP39X207	SWITCH-Stereo On/Off
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KNOBS

PART NO.	DESCRIPTION
EP47X60	BALACNE, TREBLE & BASS
EP47X60	COLOR, TINT, BRIGHTNESS, & PICTURE
EP47X61	COLOR MONITOR, & STEREO
EP47X78	ON/OFF, VOL. UP/DOWN, & CHANNEL UP/DOWN



25PF6857

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP92X154	BRACKET-Antenna Terminal Board
EP98X584	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP8X127	JACK-Phono Type, J01 & J02

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X594	BRACKET-CRT Corner Mounting, Lexan
EP99X552	CABINET FRONT-Black, Plastic
EP41X151	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X154	DOOR-Top Tuning
EP2X619	DOOR ARM ASSEMBLY
EP2X596	DOOR CATCH
EP2X593	DOOR HINGES
EP2X644	DOOR LATCH
EP2X656	DOOR PIN
EP54X266	OVERLAY-Top Tuning, Black, Lexan
EP4X512	OVERLAY-Secondary Controls
EP1X46	RETAINER-Speaker Mounting (12 Used)
EP3X56	SPRING-CRT Ground
EP3X54	SWITCH PAD-Foam
EP4X481	WINDOW-Channel Readout

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket

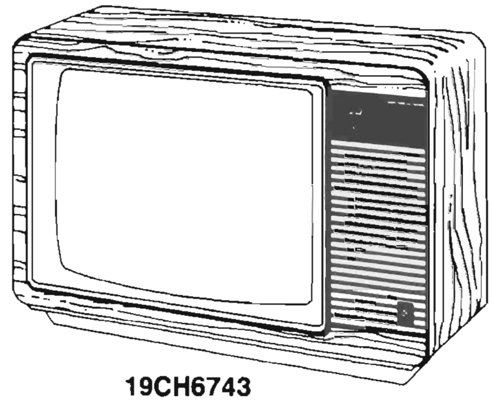
BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	LMP-112
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X575
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X209
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm 4"	EP95X14
LMP-112 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9209-85



19CH6743

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
R5198	EP49X475	VOL. LIMITER-50K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X67	ANTENNA TERMINAL BOARD-Complete
EP98X477	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X106	BRACKET-Keyboard Mounting, Plastic
EP99X569	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Greer
EP89X587	ESCUTCHEON-Primary Controls, Plastic
EP4X448	FIDDLE FREE COVER-Thumbwheel
EP89X505	GRILLE-Speaker
EP4X291	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground
EP4X549	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

[illegible] safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive [illegible]

GENERAL ELECTRIC

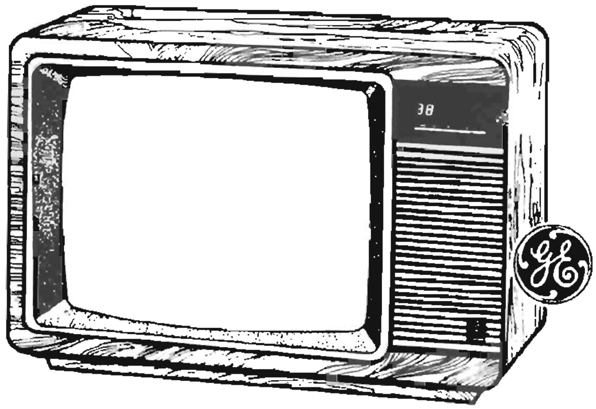
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PORTSMOUTH, VA 23705

PC CHASSIS
19CC6749J01

SERVICE INFORMATION — **PC CHASSIS MODEL PAGE**

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	LMP2-112
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X575
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X209
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
LMP2-112 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9249-85



19CC6749

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%
R4260	EP49X507	PICTURE-10K ohm, 20%
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
R5198	EP49X475	VOL. LIMITER-50K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X67	ANTENNA TERMINAL BOARD-Complete
EP98X477	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X106	BRACKET-Keyboard Mounting, Plastic
EP99X557	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X587	ESCUTCHEON-Upper Controls, Black, Plastic
EP4X448	FIDDLE FREE COVER-Thumbwheel
EP89X480	GRILLE-Speaker
EP93X291	OVERLAY-Secondary Control, Plastic
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground
EP4X549	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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GENERAL ELECTRIC

CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

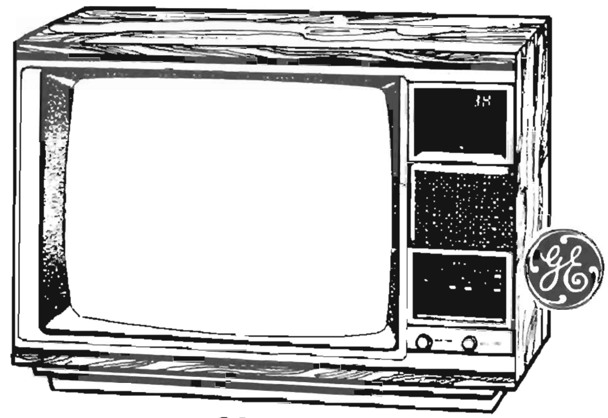
PC CHASSIS
19CC6753J01

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	MP1-112
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X575
BATTERY-Nickel Cadmium	EP58X3
RADIO CIRCUIT BOARD:	EP93X547
RADIO POWER SUPPLY/KEYBOARD BOARD:	EP93X549
RELAY CIRCUIT BOARD:	EP93X594
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X206
SPEAKER: 32 ohm, 4"	EP95X14
MP1-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9239-85



19CC6753

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast, Push
KSW05	EP39X206	SWITCH-Clock Slow, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
R4220	EP49X507	BRIGHTN ESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
R5198		DUAL POT-TV. Vol. Limiter, 25K
	EP49X498	ohm, 30%
R5199		Radio Vol. Limiter, 100K ohm, 30%
S1	EP39X212	SWITCH-AM/FM, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X221	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP47X65	CLOCK-Alarm Set, Time Set, Fast & Slow
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black
EP43X461	RADIO-Volume, Black, W/Retainer
EP43X462	RADIO-Tuning, Black
EP47X64	RADIO-Radio/TV Select, Radio On/Off

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X72	ANTENNA TERMINAL BOARD-Complete
EP98X543	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X133	BRACKET-Keyboard Mounting, Plastic
EP92X122	BRACKET-Radio Support, Plastic
EP99X512	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Greei
EP41X147	CLOCK TIMER READOUT
EP4X495	DIAL SCALE-AM/FM Radio Readout Lexan
EP4X455	DIAL SCALE-AM/FM Radio Readout Lexan (Use On Some Units)
EP89X601	ESCUTCHEON-Radio/Clock, Black, Lexan
EP4X448	FIDDLE FREE COVER-Thumbwheel
EP2X612	GEAR-Radio Tuning, Plastic
EP89X577	GRILLE-Speaker
EP4X291	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP2X613	POINTER-Station Indicator, Lexan
EP3X56	SPRING-CRT Ground
EP4X556	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

PC CHASSIS

ELECTRONIC AND MECHANICAL TUNERS INDEX

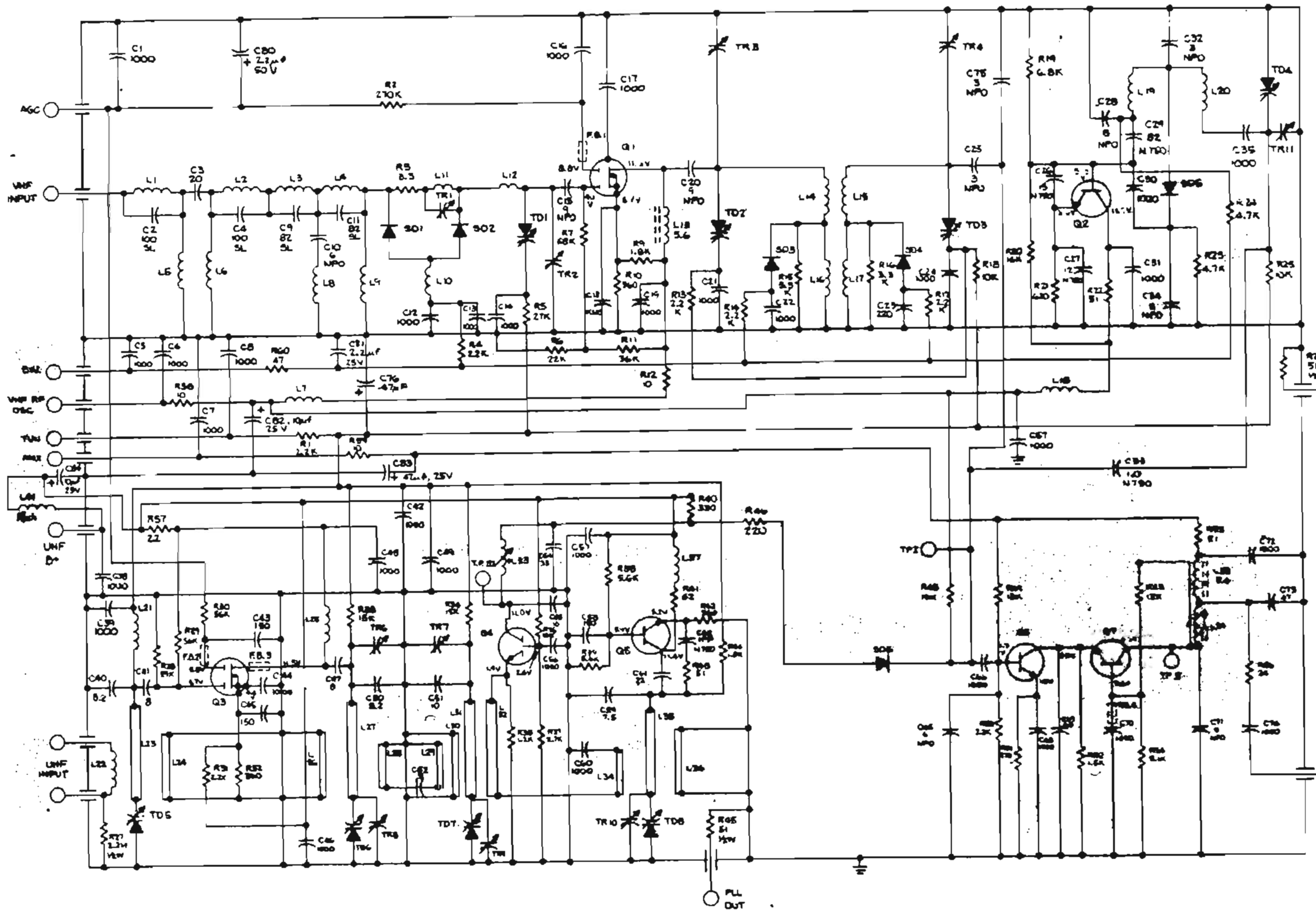
SCHEMATIC DIAGRAMS

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

TELEVISION
PC CHASSIS
UHF/VHF TUNER
EP93X334



UHF/VHF TUNER SCHEMATIC DIAGRAM EP93X334

REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
		UHF/VHF TUNER EP93X334
		CAPACITORS
C80	EP31X80	2.2uf, 50V, Electrolytic
C81	EP31X80	2.2uf, 25V, Electrolytic
C82, C83	EP31X45	47uf, 25V, Electrolytic
C84	EP31X35	10uf, 35V, Electrolytic
		COILS
L41	EP36X136	Coil (15uh) Choke
		MISCELLANEOUS
PG203/RL203	EP8X44	Connector, 6 pos. (Inc. Pins)

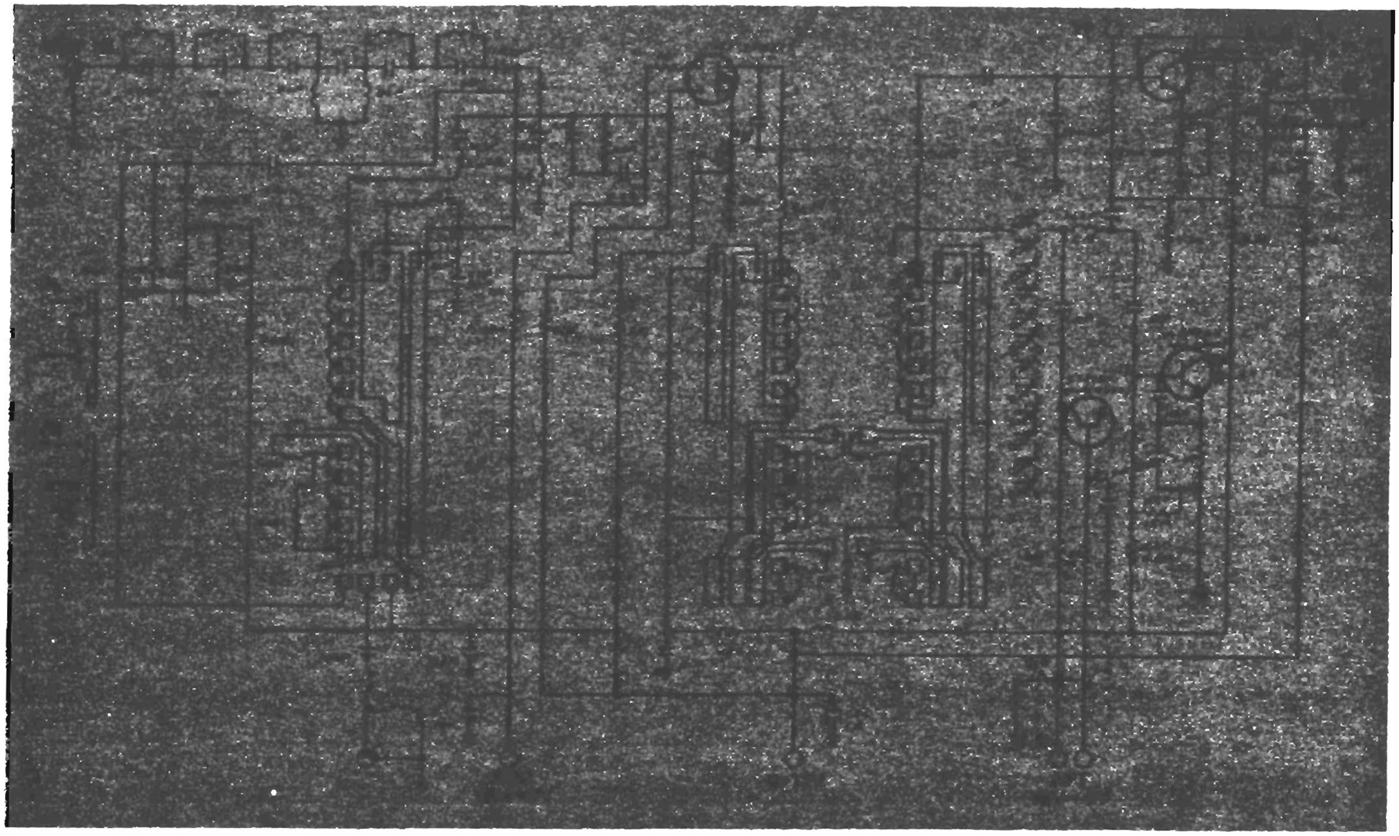
NOTE: FOR REPAIRS REQUIRING PARTS OTHER THAN THOSE LISTED, ORDER A COMPLETE REPLACEMENT TUNER.

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GENERAL ELECTRIC

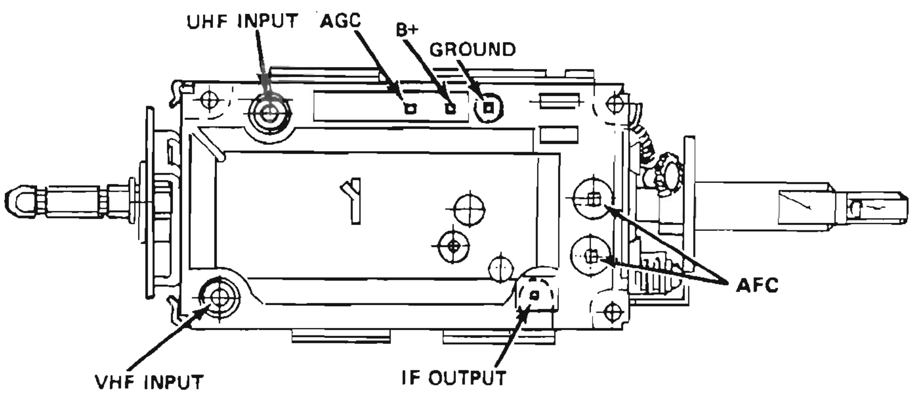
TELEVISION

SERVICE INFORMATION



VHF TUNER (EP86X83) SCHEMATIC DIAGRAM

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TUNER TOP VIEW

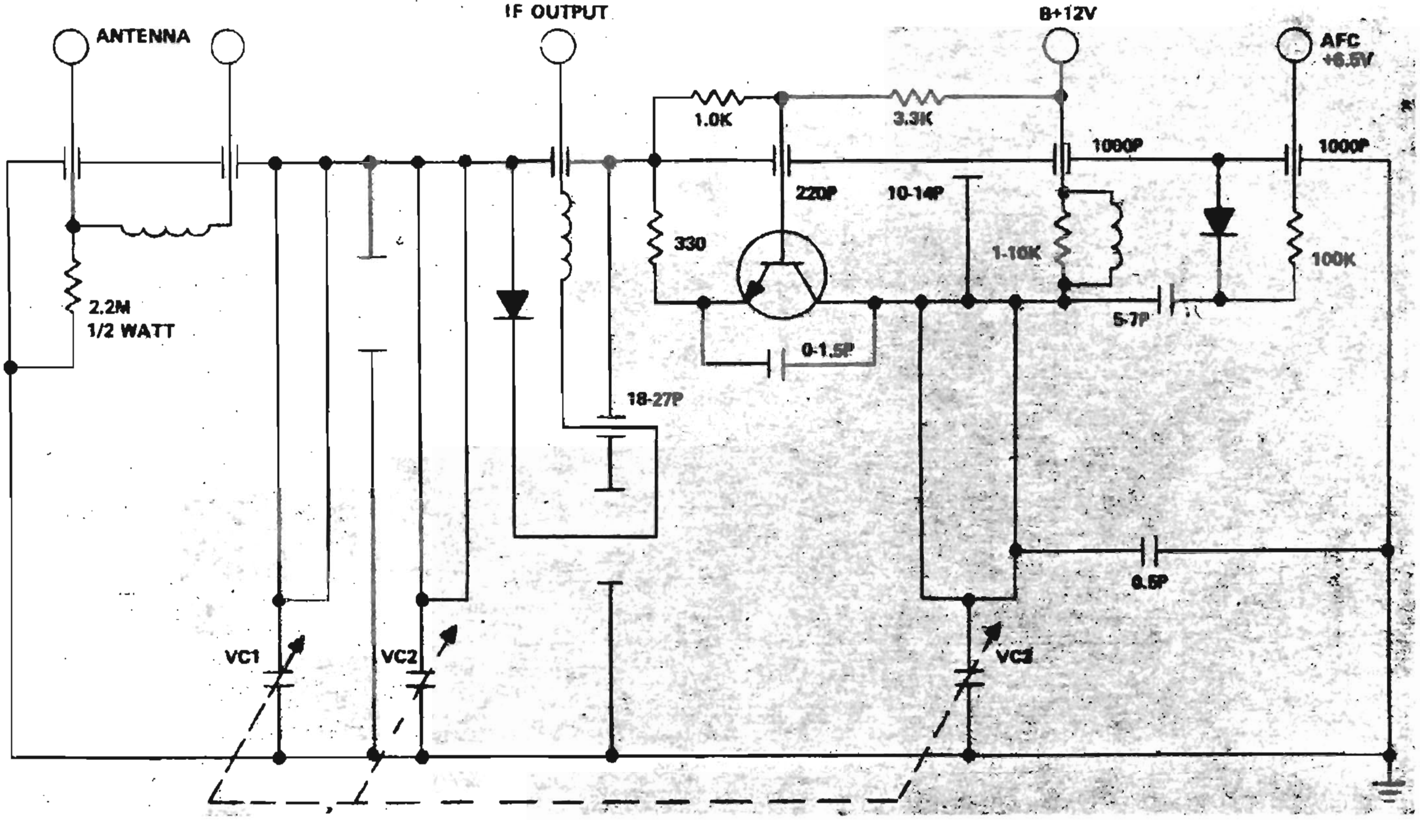
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UHF TUNER
EP85X75

GENERAL ELECTRIC

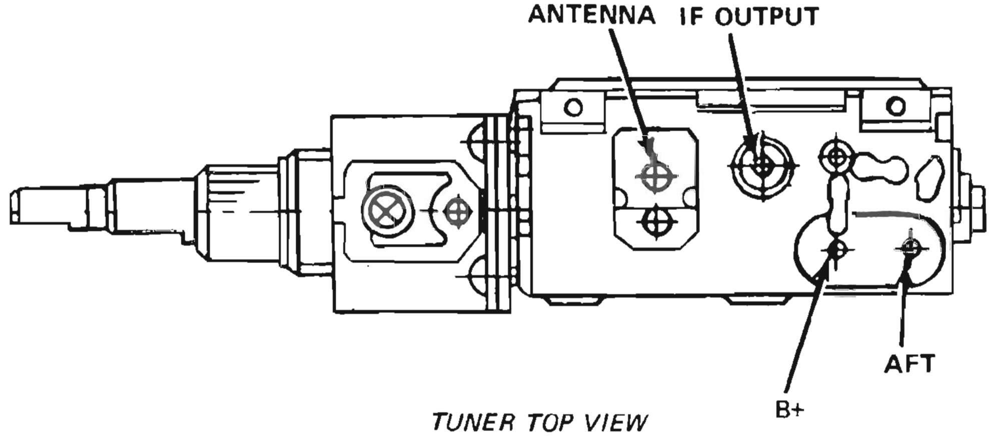
TELEVISION

SERVICE INFORMATION



UHF TUNER (EP85X75) SCHEMATIC DIAGRAM

THIS SCHEMATIC DIAGRAM IS FURNISHED FOR REFERENCE ONLY. FOR REPAIRS REQUIRING REPLACEMENT PARTS ORDER A COMPLETE REPLACEMENT TUNER.



TUNER TOP VIEW

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE [illegible] BESIDE A PART IN THE PARTS LIST AND THE SHADED AREA(S) OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A [illegible] IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.

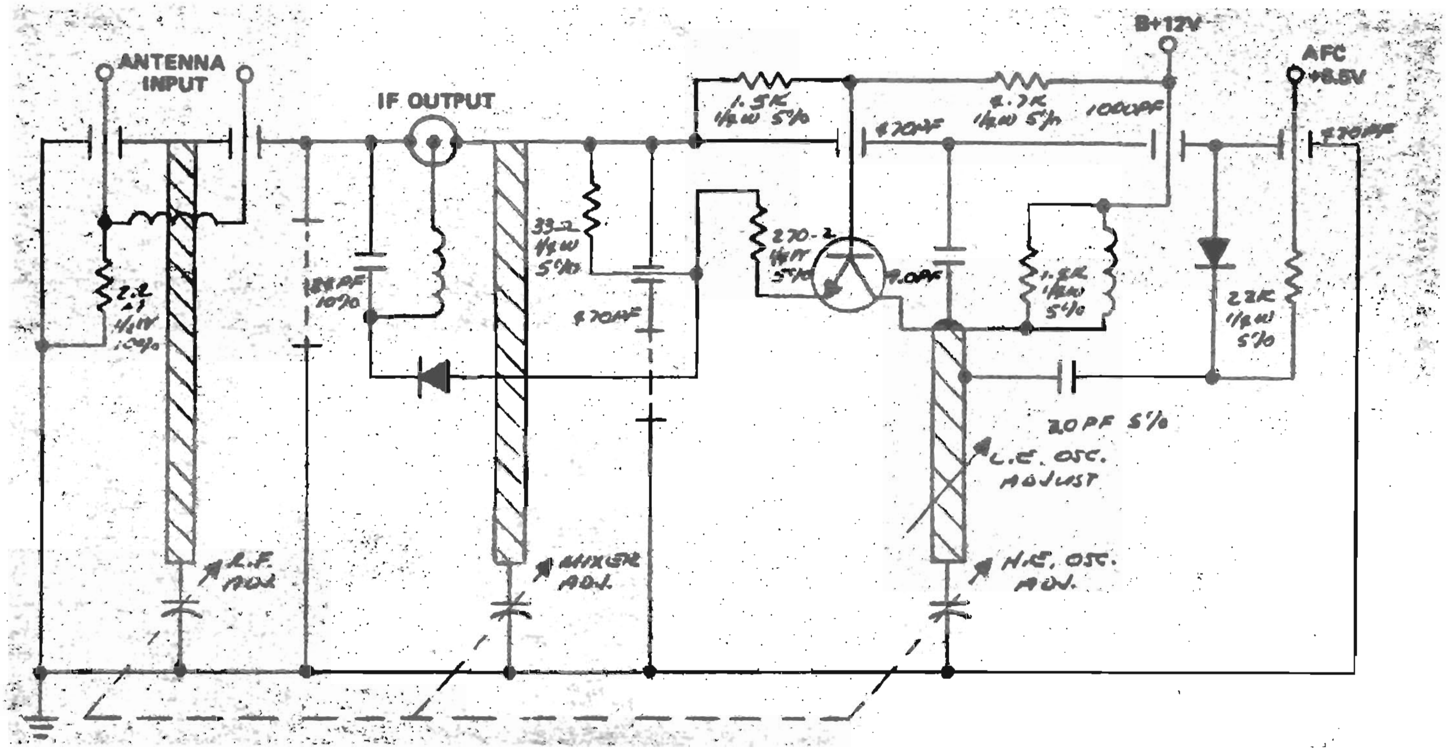
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

TELEVISION

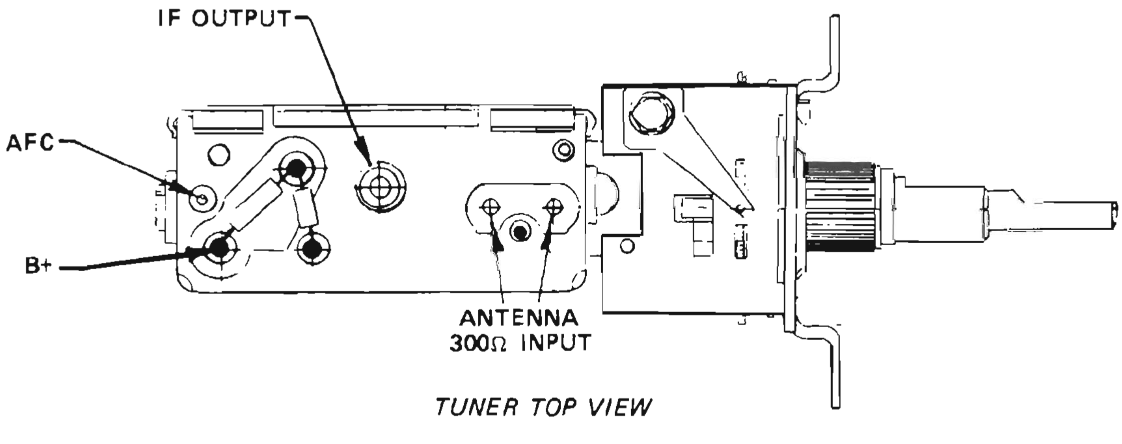
SERVICE INFORMATION

UHF TUNER EP85X76



UHF TUNER (EP85X76) SCHEMATIC DIAGRAM

THIS SCHEMATIC DIAGRAM IS FURNISHED FOR REFERENCE ONLY. FOR REPAIRS REQUIRING REPLACEMENT PARTS ORDER A COMPLETE REPLACEMENT TUNER.



TUNER TOP VIEW

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IMPORTANT

SAFETY INFORMATION

THIS RECEIVER USES A LINE-CONNECTED BRIDGE RECTIFIER. THE CHASSIS IS NOT DIRECTLY CONNECTED TO GROUND. INSTEAD, IT IS ELEVATED 70VAC ABOVE EARTH GROUND. THEREFORE, THERE IS ALWAYS A HAZARDOUS VOLTAGE BETWEEN THE CHASSIS AND EARTH GROUND. ALWAYS USE AN ISOLATION TRANSFORMER TO POWER THE RECEIVER WHEN SERVICING.

SHATTER-PROOF SAFETY GLASSES SHOULD ALWAYS BE WORN WHEN WORKING AROUND AN EXPOSED PICTURE TUBE. BEFORE HANDLING THE TUBE, THOROUGHLY DISCHARGE THE SECOND ANODE TO THE OUTER AQUADAG COATING OF THE PICTURE TUBE. REPLACEMENT PICTURE TUBES MUST HAVE INTEGRAL X-RAY AND IMPLOSION PROTECTION. REPLACE ONLY WITH TUBE OF SAME TYPE NUMBER.

CAUTION: X–RAYS

AS PRECAUTIONS AGAINST EMISSION OF X-RAYS IN EXCESS OF THE FEDERAL STANDARD, NEVER APPLY POWER TO THE RECEIVER UNTIL THE FOLLOWING CONDITIONS HAVE BEEN VERIFIED.

1. **ALL FACTORY-INSTALLED SHIELDS ARE IN PLACE.**
2. **THE PICTURE TUBE IS A FACTORY SPECIFIED TYPE ONLY.**
3. **THE LINE INPUT VOLTAGE DOES NOT EXCEED 130 VOLTS AC.**
4. **THE HIGH VOLTAGE DOES NOT EXCEED 29.0KV (30KV, 25PC) WITH BRIGHTNESS AND CONTRAST CONTROLS AT MINIMUM (MINIMUM ILLUMINATION ON PICTURE TUBE SCREEN) AT 120 VAC.**

NORMAL HIGH VOLTAGE IS 26.8KV (28.5KV, 25PC) AT ZERO BEAM CURRENT (BLACK PICTURE) WITH 120 VAC LINE INPUT. HIGH VOLTAGE IS NOT ADJUSTABLE.

"CAUTION - HIGH VOLTAGE SHUT DOWN MODULE REPLACEMENT

TO PROVIDE PROPER X-RADIATION PROTECTION IT IS NECESSARY THAT ALL COMPONENTS IN THE HVSD BE MATCHED AND TESTED AS A COMPLETE UNIT. NO INDIVIDUAL COMPONENT CAN BE SAFELY REPAIRED OR REPLACED. THEREFORE, IF A MALFUNCTION IS SUSPECTED, REPLACE ONLY WITH ENTIRE UNIT REPL. PART # **EP62X154 (EP62X167, 25PC).**

116 VOLT B+ ADJUSTMENT

THE SETTING OF THE +116 VOLT ADJUSTMENT (R953) DIRECTLY AFFECTS HIGH VOLTAGE. SEE DETAILED INSTRUCTIONS ON PAGE (PC) 3-3 BEFORE ADJUSTING B+.

(continued)

AFTER SERVICING THE RECEIVER, PERFORM THE FOLLOWING SAFETY CHECK:

BEFORE INSTALLING THE CABINET BACK:

INSPECT LEAD DRESS:

1. No lead should be against a power resistor (2 watts or more).
2. High voltage connections must have no sharp points.
3. The insulation on antenna leads should not be damaged. The leads should not be dressed close to any high voltage point or AC line connection.
4. The AC wiring should be inspected for damaged insulation, frayed wies, pinched leads, or cold solder connections.
5. Inspect the AC line cord for broken or damaged insulation.

MAKE RESISTANCE CHECK:

1. Check for DC continuity (0 ohms) from the narrow blade of the power cord to the ON/OFF switch in the ON position.

AFTER INSTALLING THE CABINET BACK:

A. Connect the VHF antenna to the VHF antenna terminals.
B. Do not plug the receiver into a power outlet. Connect both blades of the power plug together and place the ON-OFF switch in the ON position.
C. Measure between the shorted power plug and the following points. Readings should be as indicated.

TEST POINT	MIN. OHMS	MAX. OHMS
ANTENNA TERMINALS – UHF	600K	5.2 MEGS
ANTENNA TERMINALS – VHF	600K	5.2 MEGS
CABINET BACK SCREWS	OPEN CIRCUIT	
ALL METAL CONTROL OR CHANNEL SELECTOR SHAFTS (WITH KNOBS REMOVED)	OPEN CIRCUIT	
ALL NON-REMOVABLE METALLIC KNOBS, PUSH BUTTONS, EARPHONE JACKS, ETC.	OPEN CIRCUIT	
METAL ESCUTCHEONS AND OVERLAYS	OPEN CIRCUIT	

IF ANY READING IS OUTSIDE LIMITS SPECIFIED, THE CAUSE SHOULD BE IDENTIFIED AND CORRECTED BEFORE OPERATING THE RECEIVER.

ELECTRICAL SPECIFICATIONS

Power Input Rating:	Frenquency	60 cycles
	Voltage	108-128 volts
Operational Frequencies:	Picture I-F Carrier	45.75MHz
	Sound I-F Carrier	41.25MHz
	Color Sub-Carrier (Nominal)	42.17MHz
	Intercarrier Sound Take-Off	4.5MHz
Audio Power Output:	Average (25KHz Dev.)	1.5 Watt @10% Distortion

SERVICE ADJUSTMENTS

The receivers covered by this service information are factory adjusted before shipment and generally require only slight adjustment.

After applying power to the receiver, adjust the controls for a black and white picture. Observe the picture for good black and white reproduction over the entire screen area. No objectionable color shading should be evident. If color shading is evident, degauss, purify, and converge the receiver.

If adjustment is required, allow at least 20 minutes of warm up time prior to final adjustment.

DEMAGNETIZING

The receivers are equipped with an automatic degaussing circuit which demagnetizes the picture tube each time the receiver is turned on after having been off for at least 5 minutes.

CIRCUIT PROTECTION

The entire receiver is protected by a 4 Amp fuse (F901) connected in the A.C. power line and a 1.25 Amp B+ fuse (F903). The horizontal output circuit is also protected by the B+ fuse (F903)

Protection against excessive high voltage is provided by the High Voltage Shutdown circuit. This circuit senses the amplitude of a pulse from pin 15 of the High Voltage Transformer (T701). The amplitude of this pulse is directly related to the high voltage. An increase in pulse amplitude, indicating an increase in high voltage, causes SCR990 to conduct which in turn shorts the supply for the horizontal oscillator to chassis ground through Y991. This "kills" the B+ supply for the sweep oscillator (IC501), shutting down the horizontal sweep and high voltage circuits. The Shutdown circuit will remain activated until the receiver is switched OFF for 5 to 10 seconds before the receiver will reset.

B+(116V) REGULATOR ADJUSTMENT

The 116V regulated B+ voltage is important to the operation of the receiver because it regulates the horizontal output section which supplies all the secondary DC supply voltages used throughout the receiver.

To assure continued product safety and regulatory compliance, it is very important that the following procedure is completed each time the 116V B+ regulator circuit is serviced:

1. If any of the critical parts listed below are replaced, start at Step 2, otherwise, start at Step 3:

REF. NO.	PART NO.	DESCRIPTION
Y951	EP16X19	Zener 5.6V ± 3%
Y961	EP16X27	Diode
R951	EP14X230	68K ± 2% Metal Oxide
R952	Common	1.8M ± 5% Carbon Film
R955	EP14X252	3.9K ± 2% Carbon Film

2. Measure 116V B+ at F903 at zero brightness condition preferably using a digital voltmeter (at least 1% accuracy) or a mirrored scale meter with 3% accuracy. Line voltage is not critical but should be between 108 and 128 volts. Perform brightness range and low light adjustment procedure (see Gray Scale and Brightness Centering section) if zero brightness cannot be achieved. This step is very important for the proper setting of B+. Allow 10 minute warm-up.
3. Adjust R953 (REG. ADJ.) for 116V ± 0.5V if necessary.
4. If the B+ voltage cannot be adjusted to 116 ± 0.5V, the regulator circuit requires service and the above procedure must be repeated after performing the required service.

HIGH VOLTAGE SHUTDOWN CIRCUIT CHECK

PERFORM WHENEVER HIGH VOLTAGE CIRCUITRY OR POWER SUPPLY BOARD IS SERVICED.

1. With Brite and Picture controls set at minimum, Pin 1 (HVSD TEST) to ground should read +93 to +99VDC.
2. Set Brite and Picture controls to maximum and measure DC voltage at Pin 4 (HVSD TEST) to ground. The voltage should be between -2.3 and -3.0 volts (-1.2 and -1.7 for 19PC-B01 and 25PC-A01).
3. Short Pin 1 to Pin 3 (HVSD Test). High voltage must shutdown, and stay down after short is removed.
4. Remove short, switch receiver OFF and then back ON.
5. Set should operate normally.

NOTE: THE CAUSE FOR ANY DEVIATIONS FROM NORMAL NOTED IN STEPS 1,2 and 3 ABOVE MUST BE IDENTIFIED AND CORRECTED BEFORE OPERATING THE RECEIVER.

HORIZONTAL HOLD

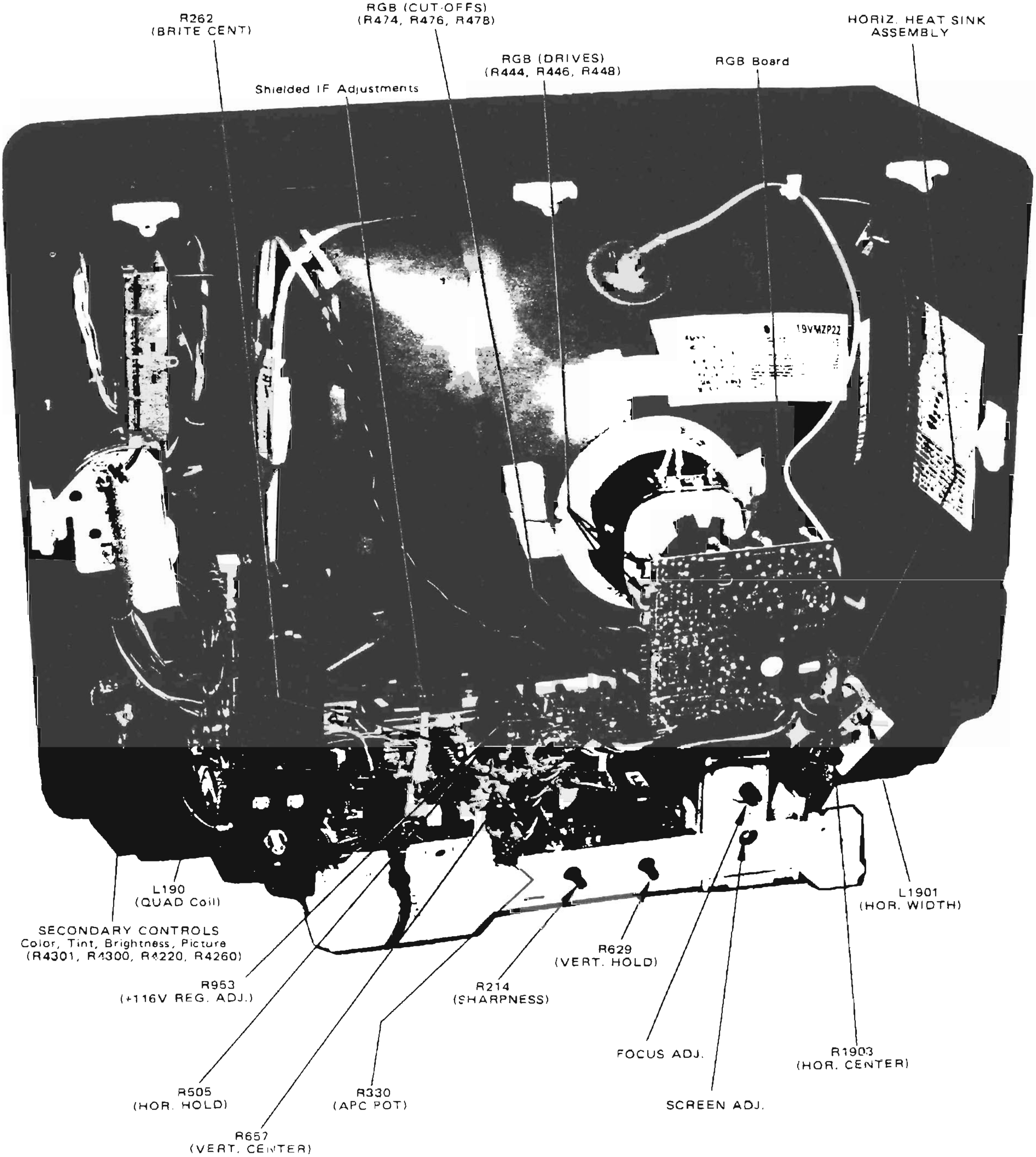
Adjust the Horizontal Hold control (R505) for a stationary picture. For more accurate adjustment, short TP501 to TP502, and adjust the Horizontal Hold control (R505) so that the picture floats slowly across the screen. Remove short between TP501 and TP502.

HORIZONTAL CENTERING

With cabinet back removed, center the raster horizontally by adjusting the Horizontal Centering control (R1903).

VERTICAL SIZE AND CENTERING

Adjust the Vertical Size control (R619) so that the raster overscans the screen by about ½ inch when operating at nominal (120VAC) line voltage. With cabinet back removed, center the raster vertically by adjusting the Vertical Centering control (R657).



PC CHASSIS SERVICE ADJUSTMENTS

HIGH VOLTAGE CHECK

1. Remove cabinet back.
2. Operate receiver for at least 15 minutes at 120 VAC line with strong air signal or test signal properly tuned in.
3. Rotate Brightness control fully CCW. Before proceeding perform B+ 116V regulator adjustment, if necessary.
4. Connect an accurate high voltage meter to CRT anode. Reading should be between 26.0 and 28.5KV.

If correct reading cannot be obtained, check horizontal output circuitry for malfunctioning components.

FOCUS

Adjust the Focus control for maximum over-all definition and fine picture detail with Brightness and Picture (contrast) controls set at normal viewing levels.

SHARPNESS CONTROL (R214)

Adjust the Sharpness control to obtain a pleasing picture. The full clockwise position gives most sharpness. A weak or snowy picture can sometimes be improved by adjusting to the full counterwise position.

VHF AND UHF FINE TUNING

Correct Fine Tuning adjustment is more critical for color than for monochrome reception. If Fine Tuning is mis-adjusted for a color program, the picture may not be reproduced in color or may exhibit incorrect color. Automatic features depend on correct Fine Tuning. In order to accomplish Fine Tuning, the Fine Tuning knobs must be depressed to engage the drive mechanism and the AFC Defeat switches.

NOTE: This procedure not applicable to models equipped with electronic tuning.

APC ADJUSTMENT (R330)

APC is factory pre-set, field adjustment is not normally required. However, if the "pot seal"has been broken and misadjustment has occurred, re-adjustment is as follows:

1. Tune in a channel with a strong color signal.
2. Place a 0.01 uF capacitor across TP300 and TP301.
3. Place a 0.01 uF capacitor across TP302 and TP303.
4. Adjust APC control (R330) until color on the screen stops fluttering (zero beat)
5. Remove the 0.01 uF capacitors.

COLOR PURITY ADJUSTMENT

For best results, it is recommended that the Purity adjustment be made in the final receiver location. If the receiver will be moved, perform this adjustment with receiver facing North. The receiver must have been operating 10 minutes prior to performing this procedure and the faceplate of the CRT must be at room temperature.

The receiver is equipped with an automatic degaussing circuit. However, if the CRT shadow mask has become excessively magnetized, it may be necessary to degauss it with a manual coil. Do not switch the coil OFF while the raster shows any effect from the coil.

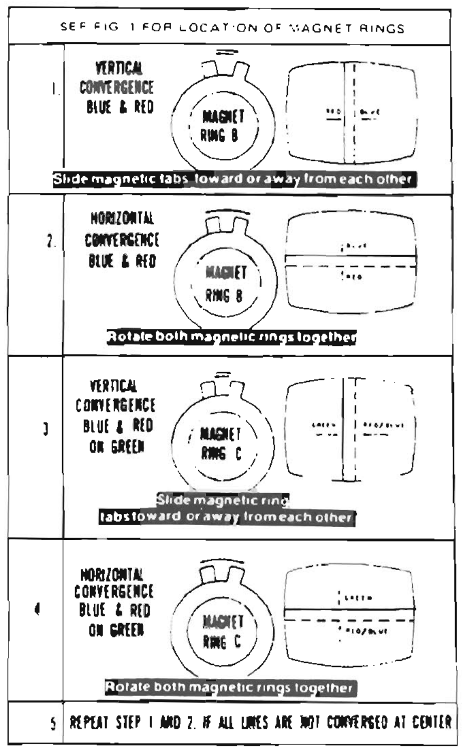
The following (Step) procedure is recommended while using the pattern produced by a Dot/Bar Generator.

STEP #1 - Purity

1. Degauss and allow receiver to warm up at least 10 minutes before adjusting for purity. The convergence/purity magnetic assembly should be secured 1½ inch from the tip of the CRT pins (See Figure 1). The convergence at the picture center should be set approximately correct. Go to Step #2 (STATIC CONVERGENCE) and perform, if necessary, before proceeding.
2. Using a blank raster, Turn Blue (R478), Red (R474), and Green (R476) Cutoff controls fully CCW. Turn brightness fully CW. Adjust Brite Center (R262), until raster is just cut off. Adjust Red Cutoff (R474) control CW for red raster.
3. Slide deflection yoke back. Set purity rings so that the squared tab and the rounded tab are together and horizontal. Separate the rings to center the red bar (See Figure 2). Do not rotate the rings as this will cause a vertical movement of the red bar.
4. Slide the deflection yoke forward to obtain a pure red field.
5. Turn Red Cutoff (R474) control fully CCW, and, one at a time, turn up the Blue (R478) and Green Cutoff (R476) controls to check the purity of the blue and green fields. If necessary, repeat adjustments for best compromise. Secure the yoke clamp.

STEP #2 — STATIC CONVERGENCE

GREEN GUN IS THE CENTER GUN. CONVERGE THE RED AND BLUE. THEN CONVERGE RED AND BLUE ON GREEN. USE A CROSSHATCH PATTERN.



STATIC CONVERGENCE CHART

SERVICE ADJUSTMENTS (Cont.)

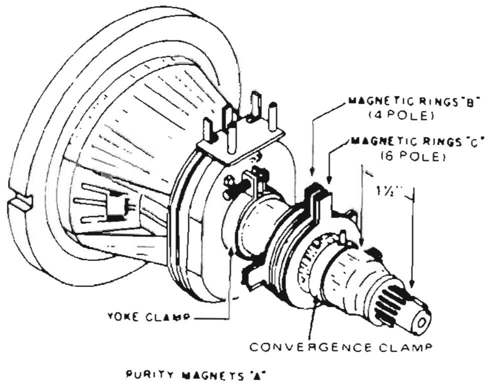


FIGURE 1

PURITY

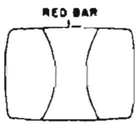


FIGURE 2

HORIZONTAL SPLITS

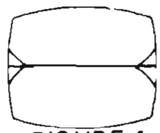


FIGURE 4

VERTICAL SPLITS

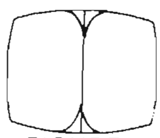


FIGURE 5

BLUE (HIGH)

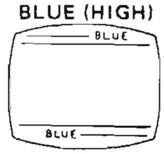


FIGURE 6

RED (HIGH)

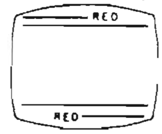


FIGURE 7

WEDGE POSITIONS

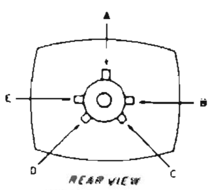


FIGURE 3

DYNAMIC CONVERGENCE ILLUSTRATIONS

STEP #3 - DYNAMIC CONVERGENCE

1. Use a crosshatch pattern.
2. If it is necessary to correct for horizontal splits (See Figure 4), insert a wedge between the CRT and yoke at position A (Figure 3).
3. If it is necessary to correct for vertical splits (Figure 5) readjust the wedge slightly to the left or right.
4. For edge convergence insert a wedge in position B or E (Figure 3). If the blue is high (Figure 6) insert a wedge in position B. If the red is high (Figure 7) insert a wedge in position E.
5. To "lock" the dynamic convergence:
   - A. If the second wedge was inserted in position B, insert the third wedge in position D.
   - B. If the second wedge was inserted in position E, insert the third wedge in position C.
   - C. Confirm the dynamic convergence remains properly aligned and lock each wedge in position with a strip of tape.

STEP #4 - GRAY SCALE AND BRIGHTNESS CENTERING

1. Turn in a color picture, set the Brightness, Picture, Color, Red, Green, Blue Cutoff controls and screen control fully CCW. Set R, G, B Drive Controls(R444, R446, R448) and Brite Center (R262) fully CW.
2. Turn the VIR off. Place black tape over Light Sensor (not on all models).
3. Disconnect the vertical yoke plug, PG11. Short TP401 to TP402. Adjust Screen Control CW until raster line lights. Then turn it CCW until the line just goes black. Disconnect the short from TP401.
4. Turn Brightness fully CCW until first gun just lights. Adjust Red, Blue, and Green Cutoff controls to just illuminate the line. Connect vertical yoke plug, PG11.
5. Turn Picture Control and Brite Center (R262) up for normal picture. Adjust the Drive Control of the predominate color for best gray scale in the high brightness areas.
6. Readjust Cutoff controls for low brightness areas. Repeat as necessary. Remove tape from Light Sensor opening.
7. Brite Center Adjustment - Turn the Brightness control fully CW anc the Picture control fully CCW. Turn the Brite Center so that the black areas in the picture are slightly gray.

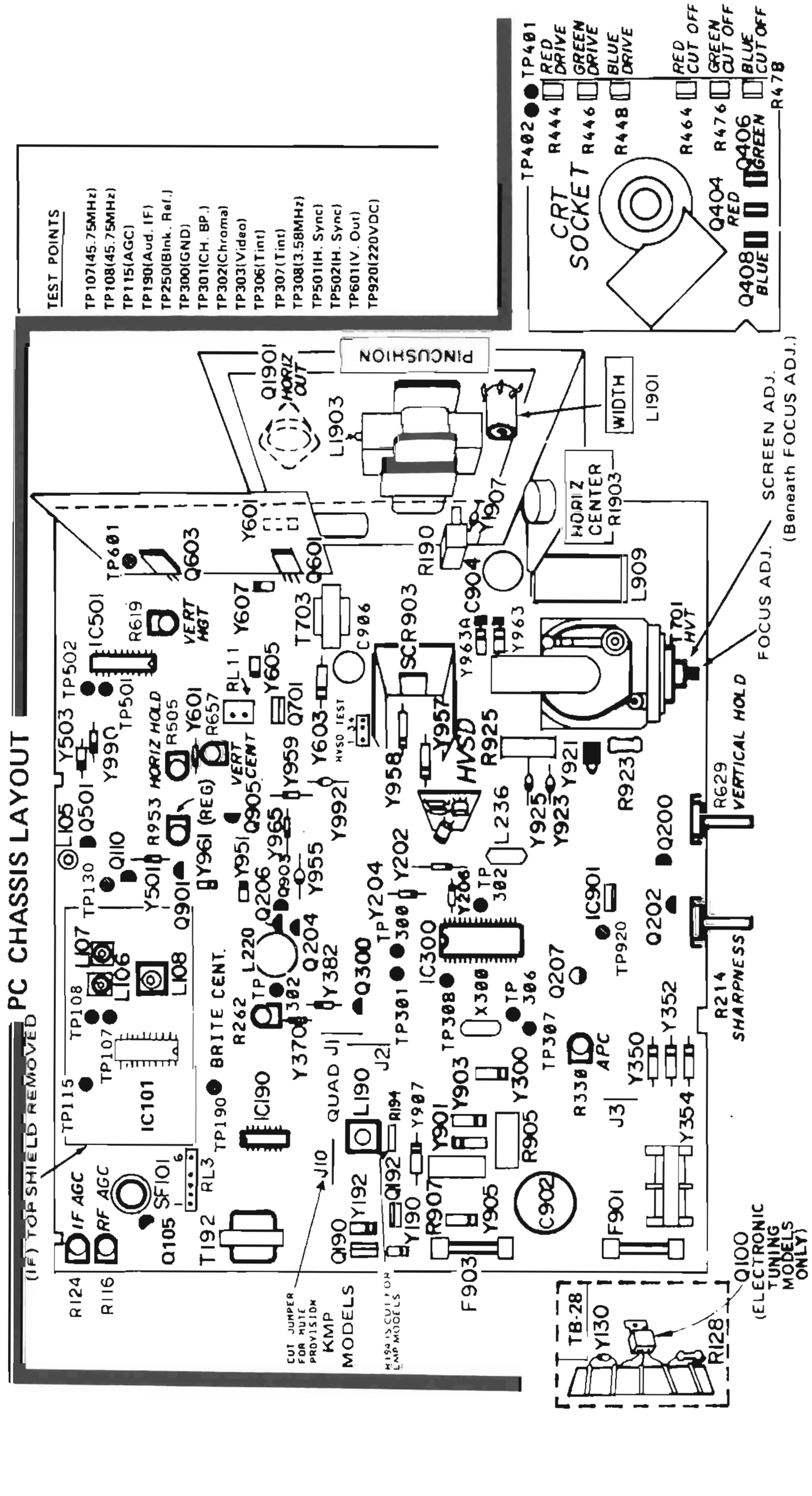


FIGURE 8. PC MAIN CHASSIS LAYOUT

ALIGNMENT

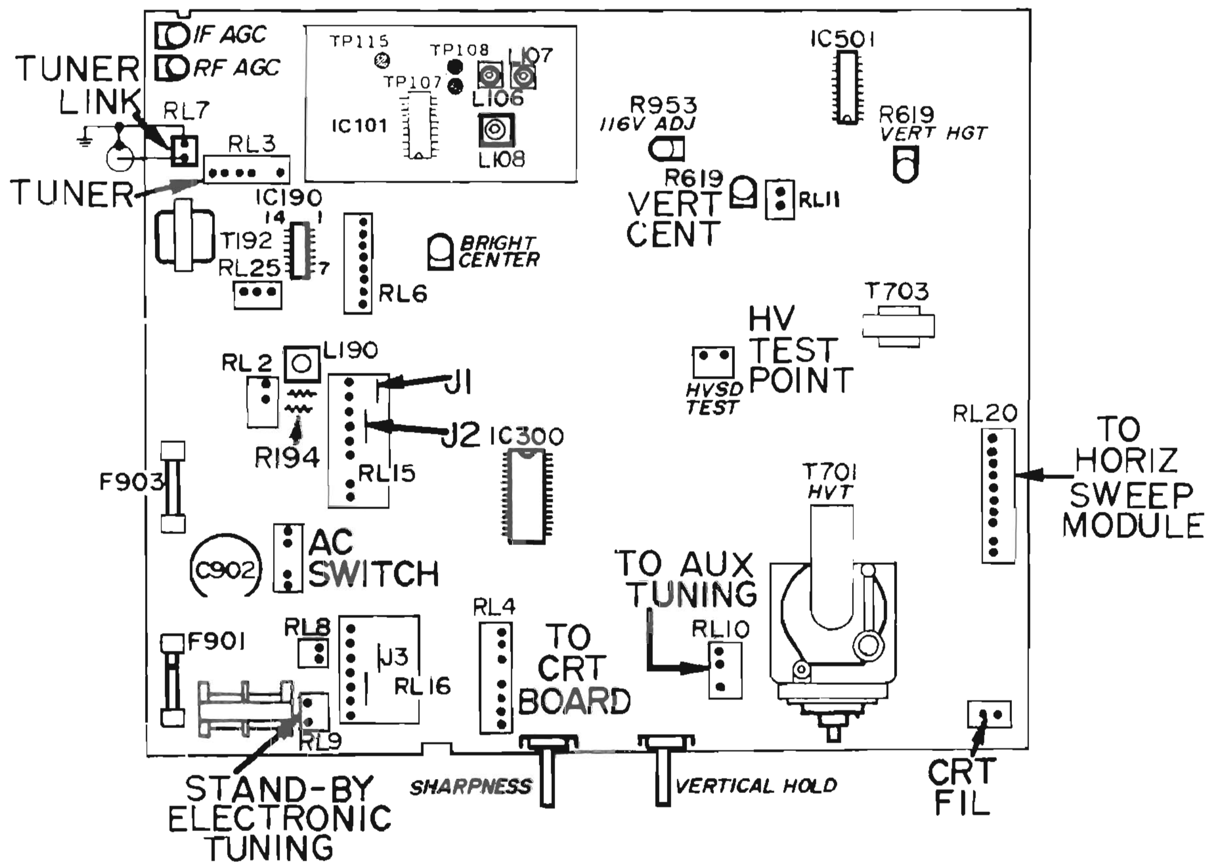


FIGURE 9. PC CHASSIS PLUG LOCATIONS

VIDEO IF ALIGNMENT

TEST EQUIPMENT

To properly align these chassis, the following test equipment with minimum requirements as specified should be used.

DOT/CROSSHATCH/COLOR BAR GENERATOR
OSCILLOSCOPE - Vertical response to at least 4.5MHz
SWEEP GENERATOR - A. With the following ranges:
1. 0 to 5MHz
2. 38 to 48MHz
3. One lo-band and one hi-band VHF channel.

B. Output adjustable with at least .1 Volts minimum.

MARKER GENERATOR - To provide IF and chroma marker frequencies with crystal accuracy.

BIAS SUPPLY - 0 to 6vdc, variable

POWER SUPPLY - Capable of at least 17VDC output.

GENERAL

Switch OFF power to receiver. Disconnect PG3, PG7 and PG10. Refer to Figure 9 for location of plugs. Set-up test equipment as shown in Figure 10.

POWER SUPPLY

Connect the Positive lead of a 17 Volt Power supply to pin 2 of RL10. Connect the Negative lead to the module chassis.

CAUTION: Before connecting test equipment to the module, the power supply must be disconnected or switched off.

BIAS SUPPLY

Connect the Negative lead of a Bias supply (0-6VDC) to the mo chassis. Connect the Positive lead to TP115. Refer to Figure 10

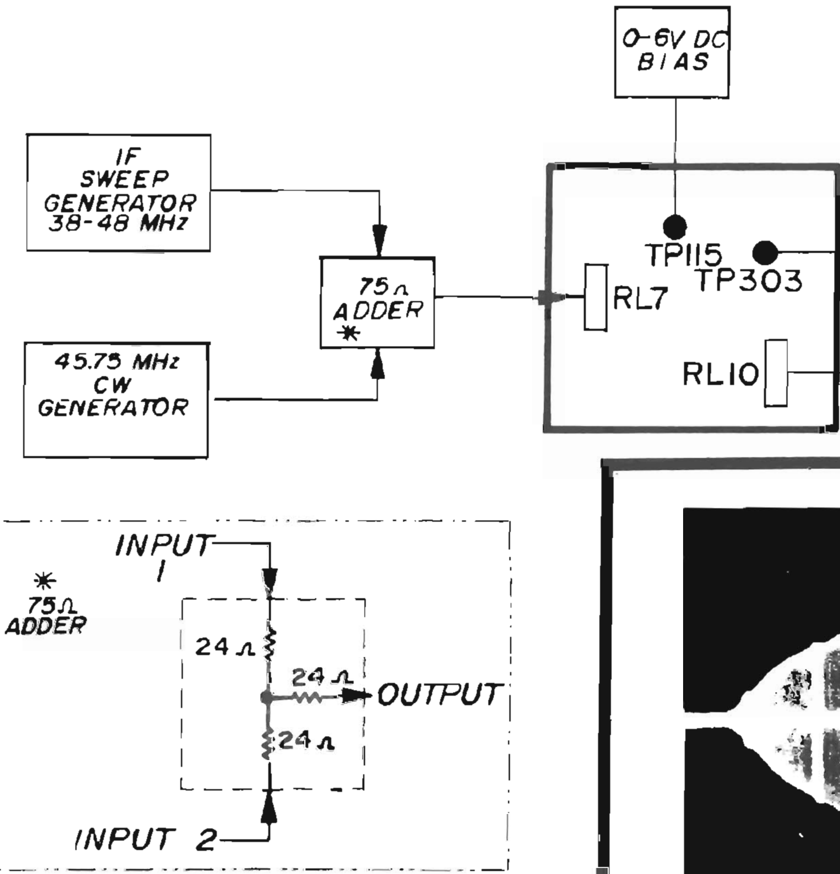


FIGURE 10. TEST SET-UP FOR IF ALIGNMENT

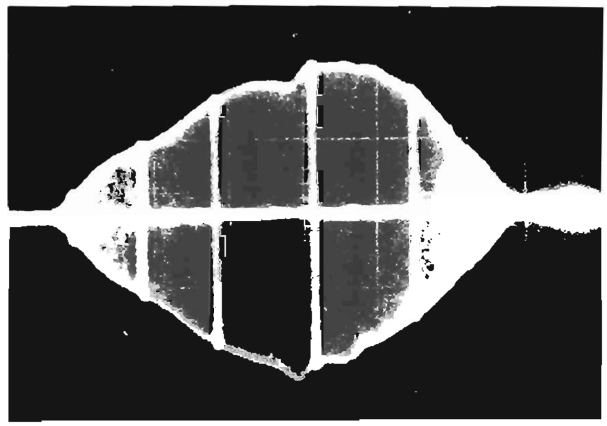


FIGURE 11. OVERALL IF SWEEP RESPONSE CURVE

NOTE: DURING ALIGNMENT PROCESS BE CAREFUL TO MAINTAIN THE 44MHz MARKER AT 0.8V (P-P) BIAS. READJUST IF NECESSARY.

L106 (45.75MHz REF) ALIGNMENT

1. Input 45.75MHz CW signal to RL7.
2. Adjust input level so that DC voltage at RL3 pin 6 (RF/AGC) is between 5 and 7VDC.
3. Adjust L106 slug for minimum DC voltage.

L107 (AFC) ALIGNMENT

1. Input 45.75MHz CW signal to RL7.
2. Adjust input level so that DC voltage at RL3 pin 6 (RF/AGC) is between 5 and 7VDC.
3. Place meter across pins 3 and 4 of RL3.
4. Adjust L107 for 0.0 ± 0.5 VDC.

OVERALL IF SWEEP AND 41.25MHz TRAP ALIGNMENT

(Refer to Figure 10 for test set-up).

1. Set Bias to 5.0VDC ± 0.25VDC.
2. Adjust both generators to obtain a 0.8V(P-P) waveform.
3. Adjust L105 to minimize to 41.25MHz marker.
4. Adjust L108 (top slug) to minimize 41.25MHz marker.
5. Adjust L108 (bottom slug) to maximize 44MHz marker.

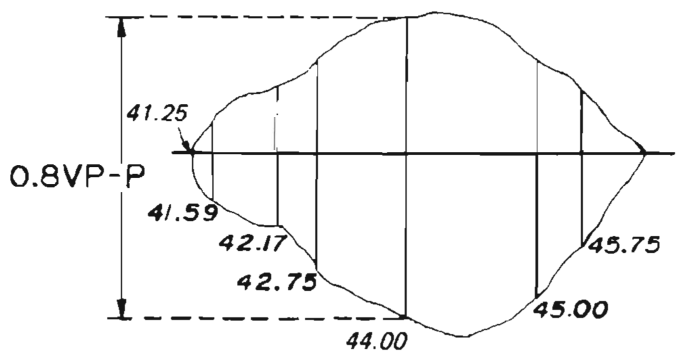


FIGURE 12. OVERALL IF SWEEP RESPONSE CURVE WITH MARKERS

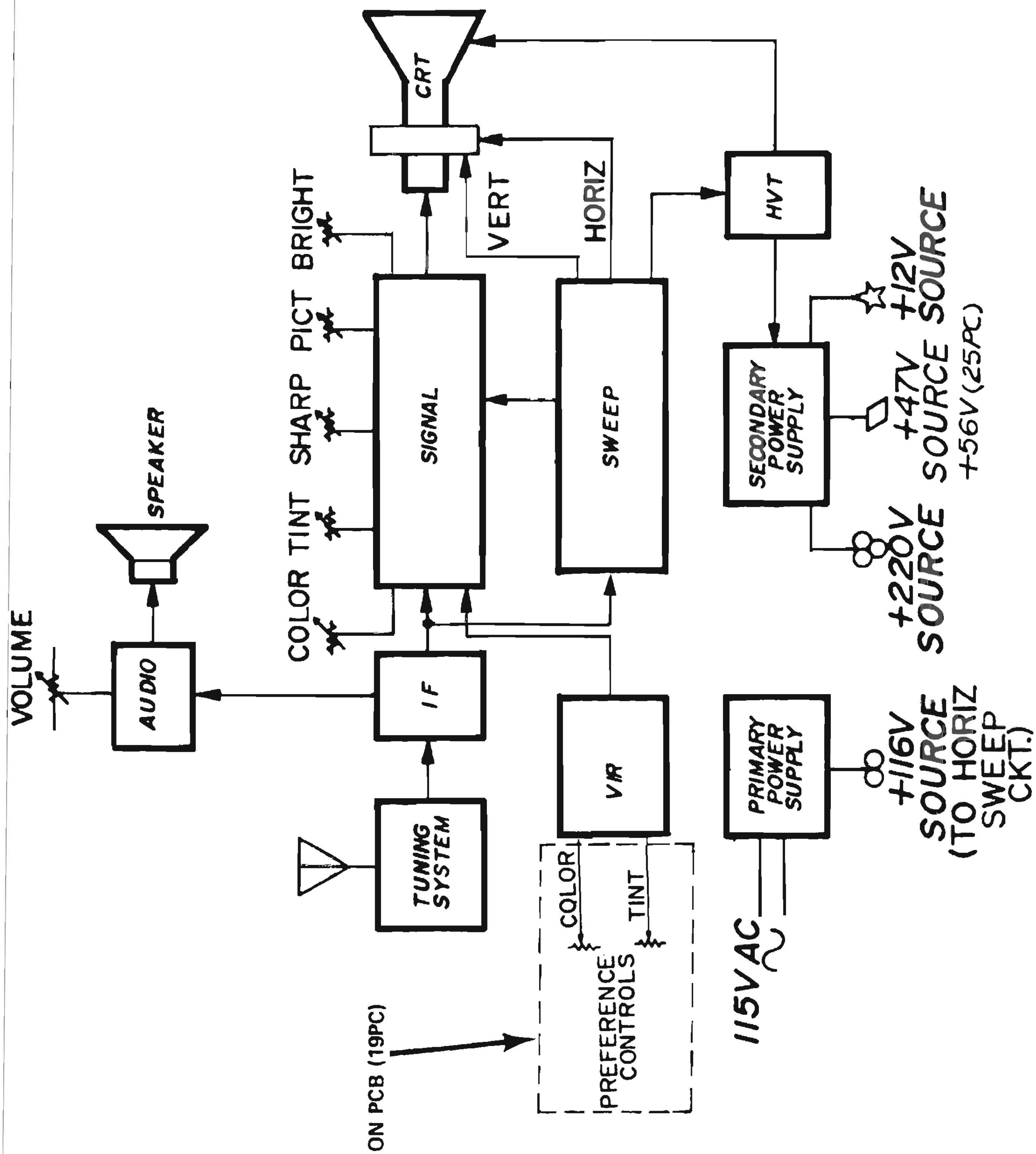


FIGURE 13. PC CHASSIS OVERALL BLOCK DIAGRAM

19PC CHASSIS CIRCUIT BOARDS/MODULES/SCHEMATICS INDEX

Section 4 Index

(CONTINUED)

19PC CHASSIS CIRCUIT BOARDS/MODULES/SCHEMATICS INDEX
(Continued)

Section 4 Index

MAIN CIRCUIT BOARD (Cont.)

L212	EP36X33	CHOKE - 56uh, 5%
L220	EP36X439	COIL - Delay Line
L236	EP36X136	CHOKE - 15uh, 10%
L259	EP36X442	CHOKE - .22uh, 20%
L300	EP36X23	CHOKE - 12uh, 5%
L320	EP36X144	CHOKE - 27uh, 5%
L321	EP36X144	CHOKE - 27uh, 5%
L322	EP36X144	CHOKE - 27uh, 5%
★ L703	EP36X437	CHOKE - Filament, H.V. Tuning
★ L901	EP36X440	COIL - Line Choke Filter
L909	EP36X441	CHOKE - 3uh, Regulator
L921	EP36X136	CHOKE - 15uh, 10%
L929	EP36X437	CHOKE - Filament, H.V. Tuning
T192	EP64X58	TRANSFORMER - Audio Output
★ T701	EP77X56	TRANSFORMER - H.V.
★ T703	EP64X57	TRANSFORMER - Buffer

MISCELLANEOUS

	EP8X36	ANODE - CRT Cap
	EP2X539	BRACKET - VHT Support, Plastic
	EP3X7	CLIP - Fuse, F901/F903
	★EP66X19	CORD - AC Power Polarized, Wired-In-Type
FB206/FB921 FB963/FB963A	EP12X8	FERRITE BEAD
★ F901	EP10X19	FUSE - 4 amp, 250V, Snap-In, Fast Acting
★ F903	EP10X27	FUSE - 1.25 amp, 250V, Snap-In, Fast Acting
	EP3X38	WASHER - Shoulder, SCR 903, Q601, Q603

RGB BOARD (M-400)

EP93X377

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EU22X216	.01uf, 20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C406	EP18X81	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C410	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C416	EP31X35	10uf, 10%, 50V, Elect.
C490	EP18X267	4700pf, 20%, 2KV, SHiK, Cer. Disc

RESISTORS

R403	EP14X103	10K ohm, 5%, ¼W, Carbon
R404	EP14X289	430 ohm, 5%, ¼W, Carbon
R405	ES14X59	560 ohm, 5%, ¼W, Carbon
R406	EP14X140	330K ohm, 5%, ¼W, Carbon
R407	EP14X125	47K ohm, 5%, ¼W, Carbon
R411	EP14X183	3.3K ohm, 5%, ½W, Carbon
R413	EP14X183	3.3K ohm, 5%, ½W, Carbon
R414	EP14X128	330 ohm, 5%, ¼W, Carbon
R415	EP14X183	3.3K ohm, 5%, ½W, Carbon
R416	EP14X128	330 ohm, 5%, ¼W, Carbon
R417	EP14X183	3.3K ohm, 5%, ¼W, Carbon
R418	EP14X128	330 ohm, 5%, ½W, Carbon
R419	EP14X183	3.3K ohm, 5%, ¼W, Carbon
R424	EP14X187	100 ohm, 5%, ¼W, Carbon
R426	EP14X187	100 ohm, 5%, ¼W, Carbon
R428	ES14X70	100 ohm, 5%, ½W, Carbon
R430	Common	1 meg ohm, 5%, ¼W, Carbon
R434	Common	200 ohm, 5%, ¼W, Carbon
R436	Common	200 ohm, 5%, ¼W, Carbon
R438	Common	200 ohm, 5%, ¼W, Carbon
R454	ES14X65	4.7K ohm, 5%, ¼W, Carbon
R456	ES14X65	4.7K ohm, 5%, ¼W, Carbon
R458	ES14X65	4.7K ohm, 5%, ¼W, Carbon
R464	ES14X64	2K ohm, 5%, ¼W, Carbon
R466	ES14X64	2K ohm, 5%, ¼W, Carbon
R468	ES14X64	2K ohm, 5%, ¼W, Carbon
★ R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★ R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★ R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

R444	EP49X469	150 ohm, 20%
R446	EP49X469	150 ohm, 20%
R448	EP49X469	150 ohm, 20%
R474	EP49X470	5K ohm, 20%
R476	EP49X470	5K ohm, 20%
R478	EP49X470	5K ohm, 20%

TRANSISTORS

Q404	EP15X61	NPN, Silicon
Q406	EP15X61	NPN, Silicon
Q408	EP15X61	NPN, Silicon

DIODE

Y402	EP16X58	Zener

COIL

L403	ES36X82	CHOKE - 220uh, 10%

MISCELLANEOUS

RL4	EP8X91	CONNECTOR - 8 Pos.
RL5	EP8X68	CONNECTOR - 2 Pos.
	EP34X65	SOCKET - CRT

HORIZ. HEAT SINK BOARD (M-1900)

EP93X348

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C1901	ES18X13	330pf, 20%, 2KV, Cer. Disc
★ C1903	EP25X146	.011uf, 5%, 1.5KV, Polypropylene
C1904	EP25X152	.1uf, 10%, 200V, Polypropylene
★ C1905	EP25X91	.47uf, 10%, 400V, Polyester
C1907	EP18X207	330pf, 20%, 500V, Cer. Disc
C1915	EP25X151	2700pf, 10%, 200V, Mylar

RESISTORS

R1901	EP14X322	100 ohm, 10%, 5W, Wirewound
R1911	EP14X128	330 ohm, 5%, ½W, Carbon

CONTINUED

HORIZ. HEAT SINK BOARD (Cont.)

TRANSISTORS

Y1903	EP57X5	Rectifier, Silicon
Y1905	EP57X5	Rectifier, Silicon
Y1907	EP57X5	Rectifier, Silicon

COILS

L1903	EU36X536	CHOKE - 5.6uh, 10%
★ T1901	EP36X444	COIL - Pincushion Asm.

MISCELLAENOUS

RL12	EP8X30	CONNECTOR - 1 Pin
FB1901	EP12X2	FERRITE - Bead
FB1903		

COLOR AVERAGING BOARD (M-M)

EP93X382

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
MC30	EP18X169	.01uf, 30% 25V, Cer. Disc
MC31	EP31X11	4.7uf, 10%, 35V, Elect.
MC32	EP31X35	10uf, 10%, 35V, Elect.
MC33	EP31X45	47uf, 10%, 25V, Elect.

RESISTORS

MR30	ES14X64	2K ohm, 5%, ¼W, Carbon
MR31	ES14X71	1K ohm, 5%, ¼W, Carbon
MR32	EP14X125	47K ohm, 5%, ¼W, Carbon
MR33	ES14X59	560 ohm, 5%, ¼W, Carbon
MR34	EP14X288	18K ohm, 5%, ¼W, Carbon
MR35	Common	3K ohm, 5%, ¼W, Carbon
MR36	EP14X122	7.5K ohm, 5%, ¼W, Carbon
MR37	Common	3K ohm, 5%, ¼W, Carbon
MR38	Common	3K ohm, 5%, ¼W, Carbon
MR39	EP14X104	22K ohm, 5%, ¼W, Carbon
MR40	ES14X70	100 ohm, 5%, ¼W, Carbon
MR41	EP14X220	180 ohm, 5%, ¼W, Carbon
MR42	EP14X120	150 ohm, 5%, ¼W, Carbon
MR43	EP14X288	18K ohm, 5%, ¼W, Carbon

TRANSISTORS

MQ30	EP15X87	NPN, Silicon
MQ31	ES15X90	PNP, Silicon
MQ32	EP15X86	NPN, Silicon
MQ33	EP15X87	NPN, Silicon

DIODES

MY30	EU16X11	Silicon
MY31	EU16X11	Silicon
MY32	EU16X11	Silicon
MY33	EU16X11	Silicon
MY34	EP16X19	Zener

VIR BOARD (M-V)

EP93X381

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
CV10	EP25X87	.047uf, 20%, 50V, Polyester
CV11	EP18X204	470pf, 10%, 50V, Cer. Disc
CV12	EP25X87	.047uf, 20%, 50V, Polyester
CV13	EP18X198	2200pf, 30%, 25V, Cer. Disc
CV14	EP31X35	10uf, 10%, 16V, Elect.
CV15	EP25X87	.047uf, 20%, 50V, Polyester
CV16	EP25X87	.047uf, 20%, 50V, Polyester
CV17	EP25X87	.047uf, 20%, 50V, Polyester
CV18	EP18X204	470pf, 10%, 50V, Cer. Disc
CV19	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV21	EP31X45	47uf, 10%, 25V, Elect.
CV22	EP18X197	1000pf, 20%, 50V, Cer. Disc
CV23	EP25X87	.047uf, 20%, 50V, Polyester
CV24	EP31X141	220uf, 10%, 16V, Elect.
CV25	EP18X169	1000pf, 30%, 25V, Cer. Disc
CV26	EP31X45	47uf, 10%, 16V, Elect.
CV27	EP25X87	.047uf, 20%, 50V, Polyester
CV29	EP25X87	.047uf, 20%, 50V, Polyester
CV30	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV31	EP25X87	.047uf, 20%, 50V, Polyester
CV32	EP25X87	.047uf, 20%, 50V, Polyester
CV33	EP31X55	100uf, 10%, 10V, Elect.
CV34	EP31X45	47uf, 10%, 16V, Elect.
CV35	EP25X87	.047uf, 20%, 50V, Polyester
CV36	EP18X197	1000pf, 20%, 50V, Cer. Disc
CV37	EP25X87	.047uf, 20%, 50V, Polyester
CV38	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV40	EP18X204	470pf, 10%, 50V, Cer. Disc
CV51	EP18X214	.022uf, 20%, 500, Cer. Disc

RESISTORS

RV10	EP14X183	3.3K ohm, 5%, ¼W, Carbon
RV11	ES14X71	1K ohm, 5%, ¼W, Carbon
RV12	EP14X243	2.2K ohm, 5%, ¼W, Carbon
RV13	EP14X243	2.2K ohm, 5%, ¼W, Carbon
RV14	EP14X252	3.9K ohm, 5%, ¼W, Carbon
RV16	ES14X71	1K ohm, 5%, ¼W, Carbon
RV17	ES14X71	1K ohm, 5%, ¼W, Carbon
RV18	EP14X183	3.3K ohm, 5%, ¼W, Carbon
RV19	EP14X304	2.7K ohm, 5%, ¼W, Carbon
RV20	EP14X183	3.3K ohm, 5%, ¼W, Carbon
RV21	EP14X125	47K ohm, 5%, ¼W, Carbon
RV22	EP14X125	47K ohm, 5%, ¼W, Carbon
RV23	ES14X71	1K ohm, 5%, ¼W, Carbon
RV24	EP14X243	2.2K ohm, 5%, ¼W, Carbon
RV25	ES14X71	1K ohm, 5%, ¼W, Carbon
RV26	EP14X125	47K ohm, 5%, ¼W, Carbon
RV27	Common	220 ohm, 5%, ¼W, Carbon
RV28	EP14X125	47K ohm, 5%, ¼W, Carbon
RV29	EP14X103	10K ohm, 5%, ¼W, Carbon
RV30	EP14X288	18K ohm, 5%, ¼W, Carbon
RV31	EP14X103	10K ohm, 5%, ¼W, Carbon
RV32	EP14X140	330K ohm, 5%, ¼W, Carbon
RV33	Common	750K ohm, 5%, ¼W, Carbon
RV34	EP14X271	8.2K ohm, 5%, ¼W, Carbon
RV35	Common	3.6K ohm, 5%, ¼W, Carbon
RV36	Common	9.1K ohm, 5%, ¼W, Carbon
RV37	ES14X71	1K ohm, 5%, ¼W, Carbon
RV40	EP14X125	47K ohm, 5%, ¼W, Carbon
RV41	EP14X271	8.2K ohm, 5%, ¼W, Carbon
RV42	EP14X289	430 ohm, 5%, ¼W, Carbon

CONTINUED

VIR BOARD (Cont.)

RV43	EP14X187	100 ohm, 5%, ¼W, Carbon
RV44	EP14X180	5.6K ohm, 5%, ¼W, Carbon
RV45	EP14X285	15K ohm, 5%, ¼W, Carbon
RV46	EP14X252	3.9K ohm, 5%, ¼W, Carbon
RV47	EP14X103	10K ohm, 5%, ¼W, Carbon
RV48	ES14X58	470 ohm, 5%, ¼W, Carbon
RV49	ES14X71	1K ohm, 5%, ¼W, Carbon
RV50	EP14X271	8.2K ohm, 5%, ¼W, Carbon
RV51	EP14X288	30K ohm, 5%, ¼W, Carbon
RV52	EP14X136	33K ohm, 5%, ¼W, Carbon
RV53	Common	10 ohm, 5%, ¼W, Carbon
RV55	ES14X71	1K ohm, 5%, ¼W, Carbon
RV56	ES14X71	1K ohm, 5%, ¼W, Carbon
RV57	EP14X179	2K ohm, 5%, ¼W, Carbon

POTENTIOMENTERS

RV15	EP49X471	5K ohm, 20%
RV39	EP49X471	5K ohm, 20%

INTERGRATED CIRCUIT

ICV10	EP84X60	Mono

TRANSISTORS

QV10	EP15X88	NPN, Silicon
QV11	EP15X88	NPN, Silicon
QV12	EP15X88	NPN, Silicon
QV13	EP15X88	NPN, Silicon
QV14	EP15X88	NPN, Silicon
QV15	EP15X48	PNP, Silicon

DIODES

YV10	EU16X11	Silicon
YV11	EU16X11	Silicon
YV12	EU16X11	Silicon
YV13	EU16X11	Silicon
YV14	EU16X11	Silicon
YV15	EP16X19	Zener

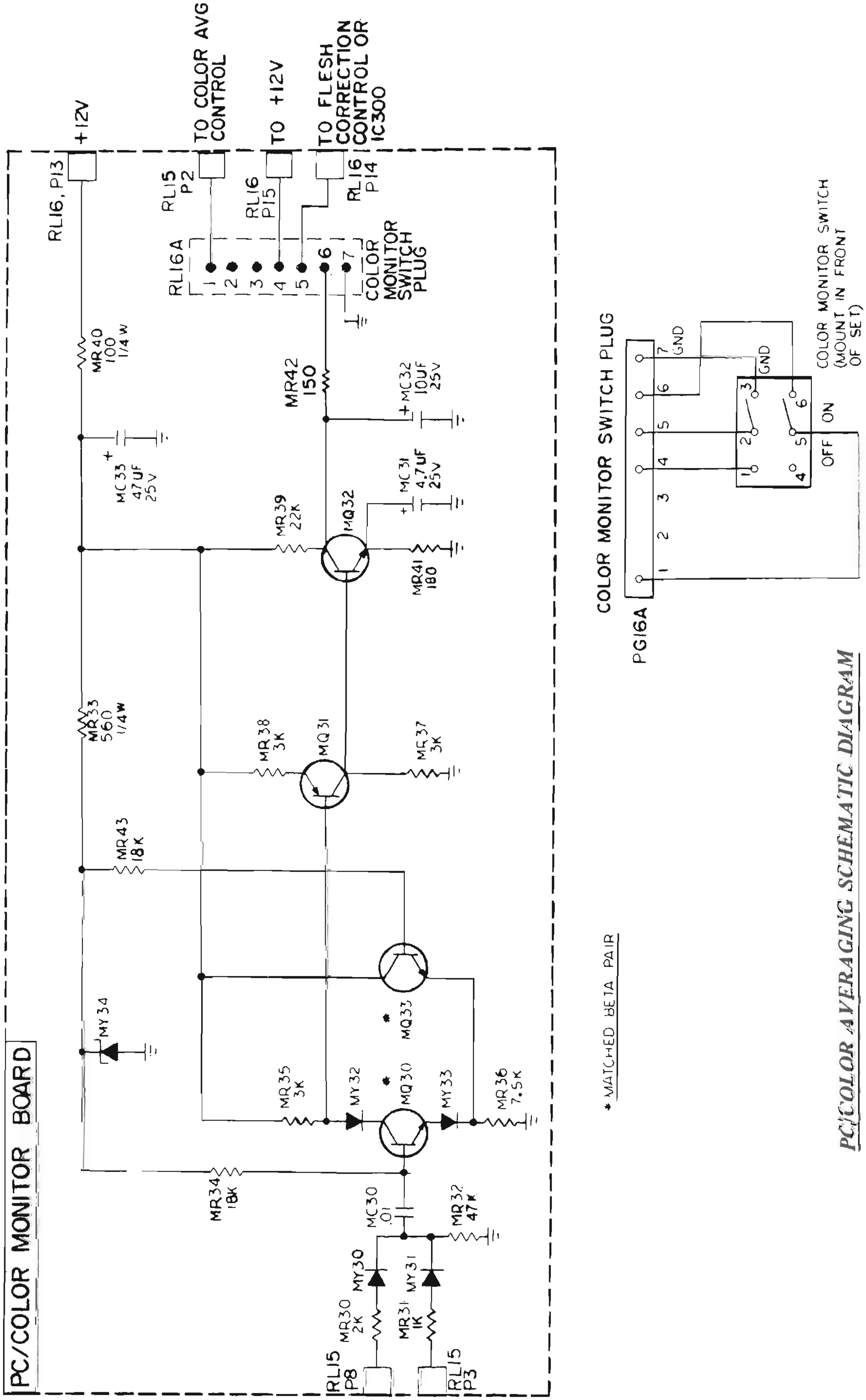
COIL

LV50	EP36X33	CHOKE - 56uh, 5%

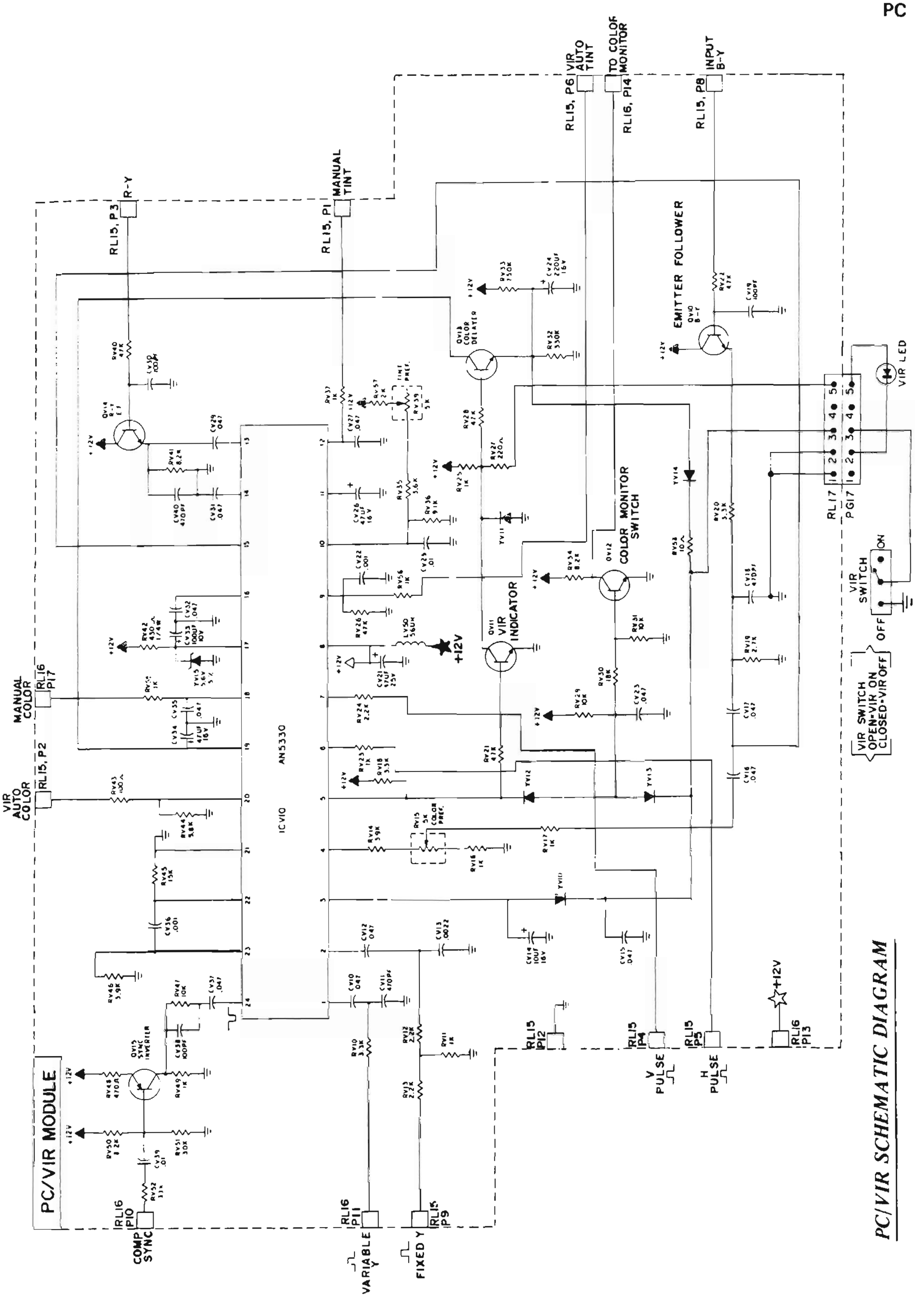
LDR BOARD (M1900)

EP41X120

REF NO.	PART. NO.	DESCRIPTION
	CAPACITOR	
C1918	EP31X88	47uf, 16V, Elect.
	RESISTORS	
R1902	Common	4.3K ohm, 5%, ¼W, Carbon
R1904	Common	3K ohm, 5%, ¼W, Carbon
R1906	EP14X284	12K ohm, 5%, ¼W, Carbon
R1910	ES14X59	560 ohm, 5%, ¼W, Carbon
R1911	EP14X324	Light Dep. Resistor
	MISCELLANEOUS	
PG28	EP8X42	CONNECTOR - 4 Pins



PC/COLOR AVERAGING SCHEMATIC DIAGRAM



PC/VIR SCHEMATIC DIAGRAM

— TECHNICIAN NOTES —

VIR CIRCUIT BOARD

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
RV33	Common	750K ohm, 5%, 1/8W, Carbon
RV34	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
RV35	Common	3.6K ohm, 5%, 1/4W, Carbon
RV36	Common	9.1K ohm, 5%, 1/8W, Carbon
RV37	ES14X71	1K ohm, 5%, 1/8W, Carbon
RV40	EP14X125	47K ohm, 5%, 1/8W, Carbon
RV41	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
RV42	EP14X289	430 ohm, 5%, 1/4W, Carbon
RV43	EP14X187	100 ohm, 5%, 1/8W, Carbon
RV44	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
RV45	EP14X285	15K ohm, 5%, 1/8W, Carbon
RV46	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
RV47	EP14X103	10K ohm, 5%, 1/8W, Carbon
RV48	ES14X58	470 ohm, 5%, 1/8W, Carbon
RV49	ES14X71	1K ohm, 5%, 1/8W, Carbon
RV50	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
RV51	EP14X288	30K ohm, 5%, 1/8W, Carbon
RV52	EP14X136	33K ohm, 5%, 1/8W, Carbon
RV53	Common	10 ohm, 5%, 1/8W, Carbon
RV55	ES14X71	1K ohm, 5%, 1/8W, Carbon
RV56	ES14X71	1K ohm, 5%, 1/8W, Carbon
RV57	EP14X179	2K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
RV15	EP49X472	5K ohm, 20%
RV39	EP49X472	5K ohm, 20%

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
ICV10	EP84X60	Mono

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
QV10	EP15X88	NPN, Silicon
QV11	EP15X88	NPN, Silicon
QV12	EP15X88	NPN, Silicon
QV13	EP15X88	NPN, Silicon
QV14	EP15X88	NPN, Silicon
QV15	EP15X48	PNP, Silicon

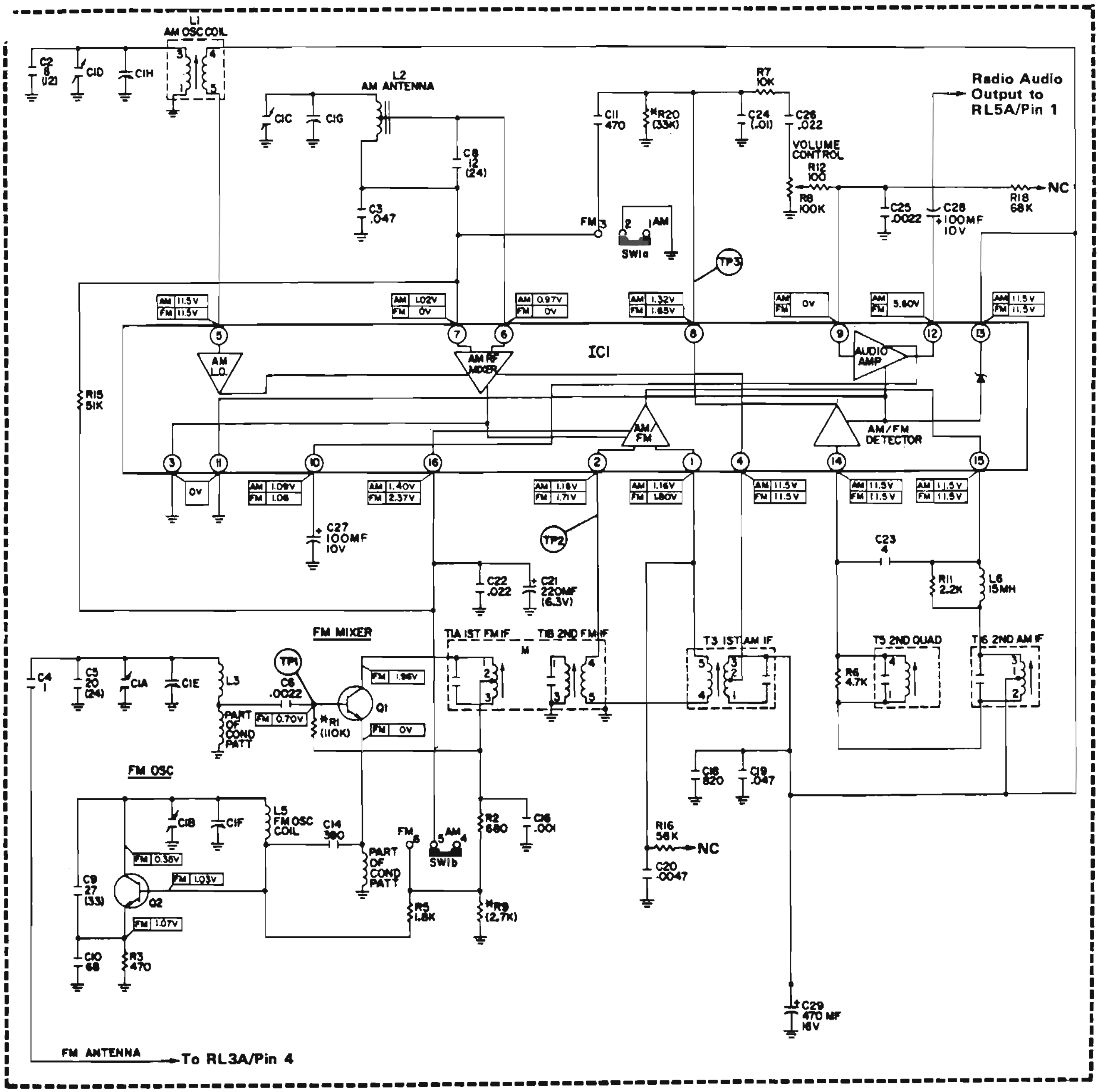
DIODES

REF. NO.	PART NO.	DESCRIPTION
YV10	EU16X11	Silicon
YV11	EU16X11	Silicon
YV12	EU16X11	Silicon
YV13	EU16X11	Silicon
YV14	EU16X11	Silicon
YV15	EP16X19	Zener

COIL

REF. NO	PART NO.	DESCRIPTION
LV50	EP36X33	CHOKE-56uh, 5%

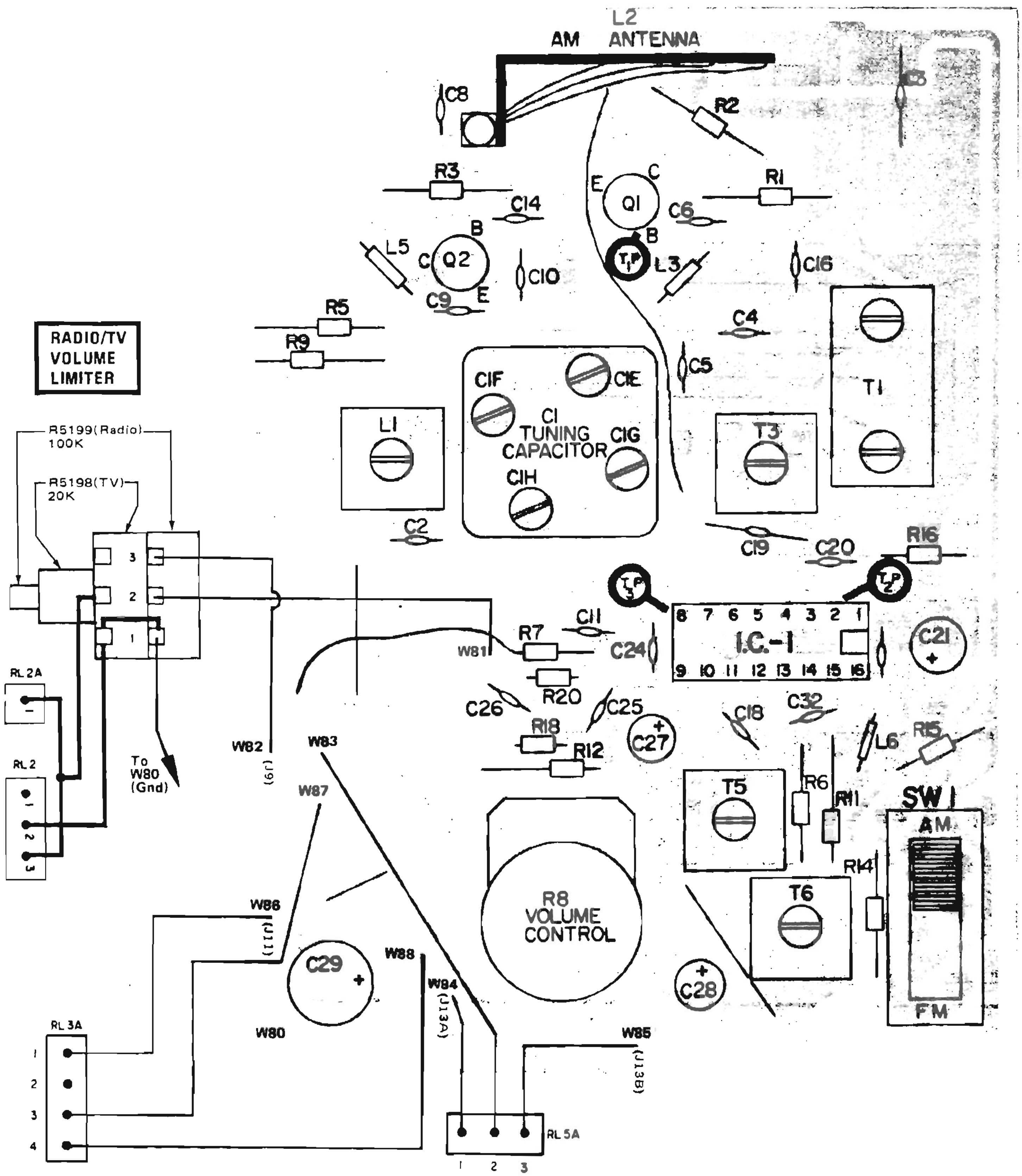
AM/FM RADIO CIRCUIT BOARD SCHEMATIC DIAGRAM



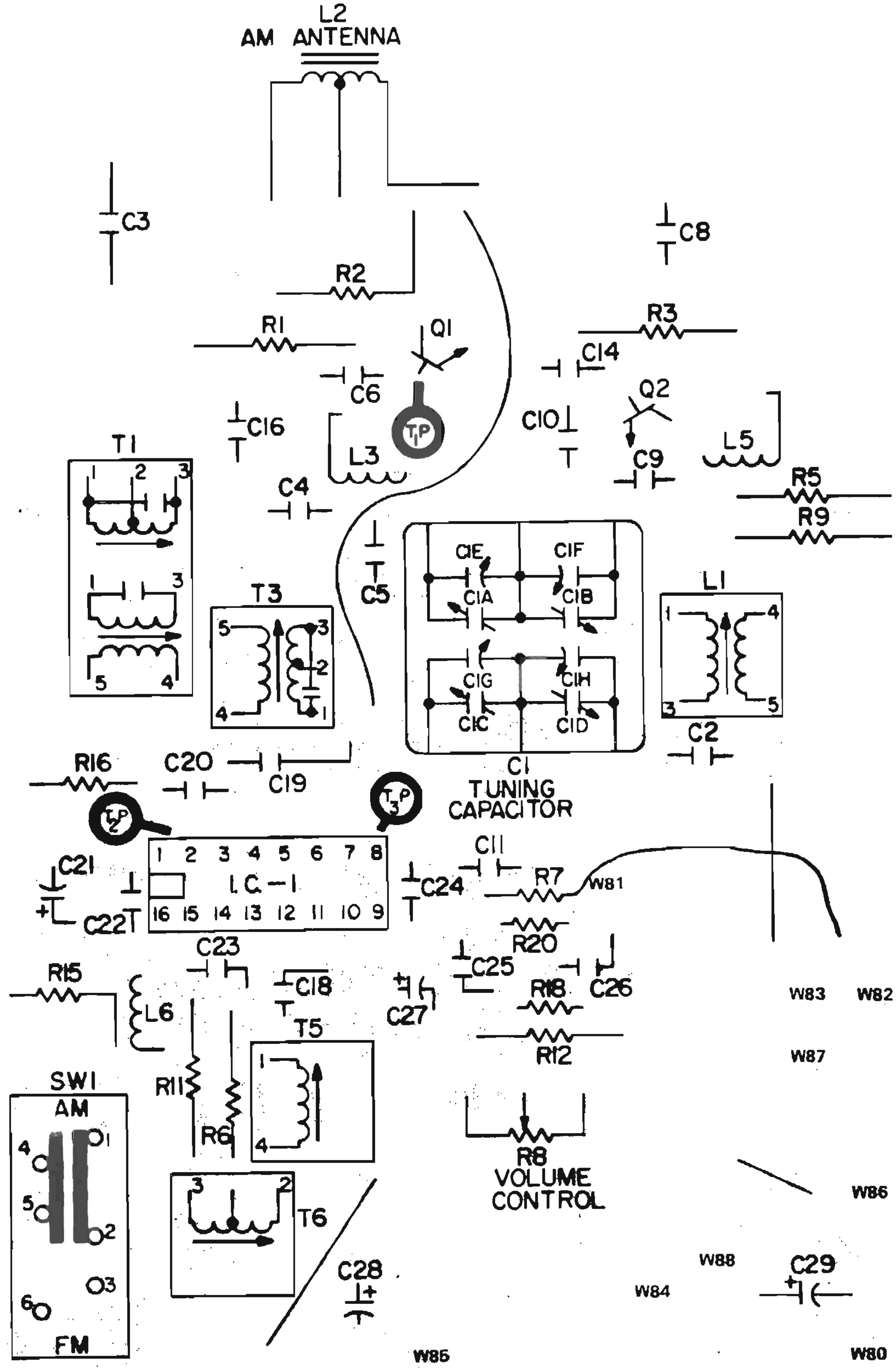
NOTES:

1. UNLESS OTHERWISE SPECIFIED
   CAPACITORS LESS THAN 1 = MF
   CAPACITORS MORE THAN 1 = PF
2. VOLTAGES ARE POSITIVE WITH RESPECT TO GROUND WITH MINIMUM VOLUME UNDER NO SIGNAL CONDITIONS
3. SW1 SHOWN IN AM POSITION
   SW101 SHOWN IN ON POSITION
4. *REFER TO REPLACEMENT PART LIST
5. NC (NOT CONNECTED)

AM/FM RADIO CIRCUIT BOARD COMPONENT LAYOUT (Component Side)



AM/FM RADIO CIRCUIT BOARD COMPONENT LAYOUT (Copper Side)



19PC "RADIO/CLOCK/TIMER" CHASSIS REPLACEMENT PARTS LIST

ANTENNA TERMINAL BRACKET ASSEMBLY EP37X72

ANTENNA TERMINAL BRACKET ASSEMBLY

EP37X72

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
* C2100	EP18X127	470pf, 20%, 125V, Cer. Disc
* C2110	EP18X127	470pf, 20%, 125V, Cer. Disc
* C2120	EP18X127	470pf, 20%, 125V, Cer. Disc
* C2130	EP18X127	470pf, 20%, 125V, Cer. Disc
* C2140	EP18X127	470pf, 20%, 125V, Cer. Disc
* C2150	EP18X127	470pf, 20%, 125V, Cer. Disc
C2160	ES18X82	47pf, 20%, 500V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
* R2100	EP14X241	1.8 Meg ohm, 40%, 1/2W, Carbon
* R2110	EP14X241	1.8 Meg ohm, 40%, 1/2W, Carbon
* R2120	EP14X241	1.8 Meg ohm, 40%, 1/2W, Carbon
* R2130	EP14X241	1.8 Meg ohm, 40%, 1/2W, Carbon
* R2140	EP14X241	1.8 Meg ohm, 40%, 1/2W, Carbon
* R2150	EP14X241	1.8 Meg ohm, 40%, 1/2W, Carbon
R2160	EP14X125	47K ohm, 20%, 1/2W, Carbon
R2170	ES14X65	4.7K ohm, 5%, 1/2W, Carbon

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	ES3X29	CLIP-Antenna Terminal
	EP2X540	CLIP-Power Cord Retainer
	EP51X6	COAX ANTENNA ISOLATION-W/Shield Box
SW5008	EP39X146	SWITCH-Channel Select, Slide Type

TV SECTION

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL2	EP8X90	CONNECTOR-3 Pos.
RL2A	EP8X30	CONNECTOR-1 Pos.

AM/FM RADIO CIRCUIT BOARD EP93X506

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
+ C1	EP30X17	TUNING CAPACITOR (Component changes required C2-(12pf), C5-(24pf), C8-(24pf), C9-(33pf), C10-(68pf)
# C2	EP18X63	12pf, 5%, 50V, Cer. Disc
# C2	EP18X18	8pf, 5%, 50V, Cer. Disc
C3	EP18X167	.047uf, +80-20%, 50V, HiK, Cer. Disc
C4	EW18X10	1pf, 5%, 50V, Cer. Disc
# C5	Common	24pf, 5%, 50V, NPO, Cer. Disc
# C5	EW18X15	20pf, 5%, 50V, NPO, Cer. Disc
C6	ES18X75	2200pf, 20%, 50V, Cer. Disc
# C8	Common	24pf, 5%, 50V, NPO, Cer. Disc
# C8	EW18X175	12pf, 5%, 50V, NPO, Cer. Disc
# C9	EP18X188	33pf, 5%, 50V, NPO, Cer. Disc
# C9	EP18X187	27pf, 5%, 50V, N220, Cer. Disc
# C10	EP18X191	68pf, 5%, 50V, NPO, Cer. Disc
C11	EP18X204	470pf, 20%, 50V, Cer. Disc
C14	EP18X117	390pf, 10%, 50V, Cer. Disc
C16	EW18X11	.001uf, 20%, 50V, Cer. Disc
C18	EW18X244	.047uf, 20%, 50V, Cer. Disc
C19	EP18X180	820pf, 20%, 50V, Cer. Disc
C20	EP18X260	4700pf, +80-20%, 50V, Cer. Disc
C21	EP18X166	220uf, 20%, 6.3V, Elect.
C22	EP18X214	.022uf, 20%, 50V, Cer. Disc
C23	EP18X165	4pf, 5%, 50V, Cer. Disc
C24	EP18X262	.01uf, +80-20%, 50V, Cer. Disc
C25	EW18X236	2200pf, 20%, 50V, Cer. Disc
C26	EP18X214	.022uf, 20%, 50V, Cer. Disc
C27	ES31X32	100uf, 20%, 10V, Elect.
C28	ES31X32	100uf, 20%, 10V, Elect.
C29	EW31X73	220uf, 20%, 16V, Elect.

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
# R1	EP14X289	160K ohm, 5%, 1/4W, Carbon
# R1	Common	150K ohm, 5%, 1/4W, Carbon
# R1	Common	200K ohm, 5%, 1/4W, Carbon
# R1	Common	240K ohm, 5%, 1/4W, Carbon
R2	ES14X60	680 ohm, 5%, 1/4W, Carbon
R3	ES14X58	470 ohm, 5%, 1/4W, Carbon
R5	EP14X361	1.8K ohm, 5%, 1/4W, Carbon
R6	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R7	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R8	EP14X105	100K ohm, 5%, 1/4W, Carbon
# R9	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
# R9	ES14X64	2K ohm, 5%, 1/4W, Carbon
R11	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R12	EP14X105	100K ohm, 5%, 1/4W, Carbon
R15	Common	51K ohm, 5%, 1/4W, Carbon
R16	EP14X92	56K ohm, 5%, 1/4W, Carbon
R18	EP14X119	68K ohm, 5%, 1/4W, Carbon
# R20	Common	24K ohm, 5%, 1/4W, Carbon
# R20	EP14X136	33K ohm, 5%, 1/4W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R5198	EP49X498	DUAL POT-T.V. Vol. Limit, 25K ohm, 30%
R5199		Radio Vol. Limit, 100K ohm, 30%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
+ IC	EP84X239	AM/FM (Component changes required R9-(4.7K), R20-(24K)
PIC01	EP84X238	TIMER

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
+ Q1	EP15X227	FM Mixer (Component change required R1-(160K)
Q2	EP15X227	FM Osc.

COILS

REF. NO.	PART NO.	DESCRIPTION
L1	EP36X478	COIL-Am Osc.
L2	EP36X479	COIL-AM Loop
L3	EP36X480	COIL-FM RF
L5	EP36X481	COIL-FM Osc.
L6	EP36X136	CHOKE-15uh
T1	EP36X482	COIL-1st & 2nd IF
T3	EP36X483	COIL-1st AM IF
T5	EP36X484	COIL-2nd Quad
T6	EP36X485	COIL-2nd AM IF

+ NOTE: When replacing this part with the type specified above, corresponding parts should be checked for proper value and appropriate changes made if required.

NOTE: When replacing this part use original value, unless there are major repairs (C1, Q1, IC).

"RADIO/CLOCK/TIMER" CHASSIS PARTS LIST (CONT.)

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP92X122	BRACKET-Radio/Clock Support, Plastic
RL3A	EP8X67	CONNECTOR-4 Pos.
	EP4X455	DIAL SCALE-AM/FM Radio Readout Lexan
	EP2X612	GEAR-Radio Tuning, Plastic
	EP2X613	POINTER-Station Indicator, Lexan
S1	EP39X212	SWITCH-AM/FM, Slide Type

RADIO POWER SUPPLY/KEYBOARD ASSEMBLY EP93X507

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
KC31	EP18X216	4700pf, 30%, 25V, Cer. Disc
KC32	EP18X180	820pf, 10%, 50V, Cer. Disc
KC33	EP18X260	4700pf, 10%, 50V, Cer. Disc
KC34	EP18X180	820pf, 10%, 50V, Cer. Disc
PC01	EP18X220	1000pf, +100-20%, Cer. Disc
PC02	EP18X220	1000pf, +100-20%, Cer. Disc
PC03	EP18X220	1000pf, +100-20%, Cer. Disc
PC04	EP18X220	1000pf, +100-20%, Cer. Disc
PC05	EP18X220	1000pf, +100-20%, Cer. Disc
PC06	EP18X220	1000pf, +100-20%, Cer. Disc
PC07	EP31X169	100uf, 20%, 35V, Elect.
PC08	EP31X154	470uf, 20%, 10V, Elect.
PC10	EP31X62	100uf, 20%, 10V, Elect.
PC11	EP31X111	2200uf, 20%, 25V, Elect.
PC12	EP31X172	22uf, 20%, 25V, Elect.
PC14	EP31X62	100uf, 20%, 10V, Elect.
PC15	EP31X62	100uf, 20%, 10V, Elect.
PC16	EP31X62	100uf, 20%, 10V, Elect.
PC17	EP31X45	47uf, 20%, 35V, Elect.
PC18	EP31X187	.68uf, 10%, 35V, Tantalum
PC20	EP25X77	.1uf, 20%, 50V, Polyester
PC21	EP18X169	.01uf, 30%, 25V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
KR30	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
KR31	Common	360K ohm, 5%, 1/4W, Carbon
KR33	EP14X103	10K ohm, 5%, 1/8W, Carbon
KR34	Common	360K ohm, 5%, 1/8W, Carbon
PR01	EP14X12	1 Meg ohm, 5%, 1/4W, Carbon
PR02	EP14X12	1 Meg ohm, 5%, 1/4W, Carbon
PR03	ES14X51	47 ohm, 5%, 1/4W, Carbon
PR05	EP14X103	10K ohm, 5%, 1/4W, Carbon
PR06	EP14X104	22K ohm, 5%, 1/4W, Carbon
PR07	EP14X119	68K ohm, 5%, 1/4W, Carbon
PR08	EP14X136	33K ohm, 5%, 1/4W, Carbon
PR09	EP14X103	10K ohm, 5%, 1/4W, Carbon
PR10	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
PR11	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
PR12	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
PR13	ES14X71	1K ohm, 5%, 1/4W, Carbon
PR14	EP14X136	33K ohm, 5%, 1/4W, Carbon
PR15	EP14X105	100K ohm, 5%, 1/4W, Carbon
PR16	Common	5.1K ohm, 5%, 1/4W, Carbon
PR17	EP14X131	47K ohm, 5%, 1/4W, Carbon
PR18	EP14X131	47K ohm, 5%, 1/4W, Carbon

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
PQ01	EP15X91	NPN, Silicon
PQ02	EP15X85	NPN, Silicon
PQ03	EP15X48	PNP, Silicon
PQ04	EP15X88	NPN, Silicon
PQ05	EP15X221	NPN, Silicon
PQ06	EP15X221	NPN, Silicon
PQ07	EP15X85	NPN, Silicon
PQ08	EP15X85	NPN, Silicon
PQ09	EP15X85	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
KY20	EP41X14	Silicon, Red
PY01	EP57X4	Rectifier, Silicon
PY02	EP57X4	Rectifier, Silicon
PY03	EP57X4	Rectifier, Silicon
PY04	EP57X4	Rectifier, Silicon
PY05	EP57X4	Rectifier, Silicon
PY06	EP57X4	Rectifier, Silicon
PY07	EP57X4	Rectifier, Silicon
PY09	ES16X27	Silicon
PY10	ES16X27	Silicon
PY11	ES16X27	Silicon
PY12	ES16X27	Silicon
PY13	ES16X27	Silicon
PY14	EP57X4	Rectifier, Silicon
PY15	ES16X27	Silicon
PY16	ES16X27	Silicon
PY17	EP57X4	Rectifier, Silicon
PZ01	EP16X158	Zener, 1W

COIL & TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
* PT01	EP88X48	TRANSFORMER-Power
PT02	EP64X60	TRANSFORMER-Inverter
PRY01	EP41X132	RELAY

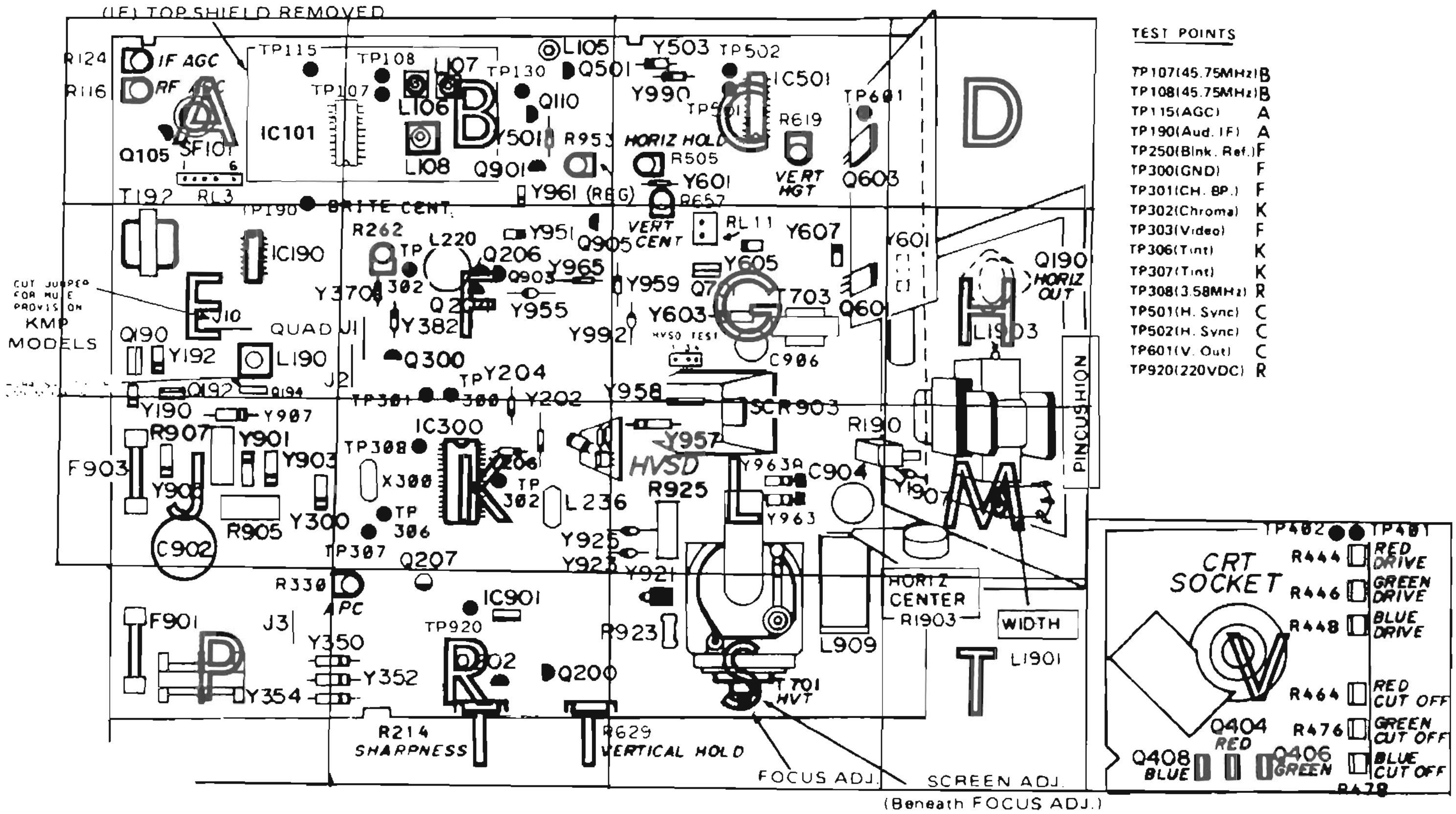
MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP58X3	BATTERY-Nickel Cadmium
	EP8X130	CABLE-Ribbon Type, 6 Wires, 10 1/4" Long
KCTM1	EP41X147	CLOCK/TIMER DISPLAY
PR19	EP49X497	CONTROL-Adjust 60hz, 20K ohm, 20%
	EP8X131	CONNECTOR-Clock/Timer Display, 16 Pos. Strip
RL1A	EP8X93	CONNECTOR-5 Pos.
RL6A	EP8X84	CONNECTOR-6 Pos.
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast, Push
KSW05	EP39X206	SWITCH-Clock Slow, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
* S4000	EP39X211	SWITCH-Power Clock/Radio, Push-Push
	EP3X55	SPACER-LED

* NOTE: When replacing this part with the type specified above, corresponding parts should be checked for proper value and appropriate changes made if required.

NOTE: When replacing this part use original value, unless there are major repairs (C1, Q1, IC).

PC CHASSIS LAYOUT



TEST POINTS

TP107(45.75MHz) B
TP108(45.75MHz) B
TP115(AGC) A
TP190(Aud. IF) A
TP250(Blnk. Ref.) F
TP300(GND) F
TP301(CH. BP.) F
TP302(Chroma) K
TP303(Video) F
TP306(Tint) K
TP307(Tint) K
TP308(3.58MHz) R
TP501(H. Sync) C
TP502(H. Sync) C
TP601(V. Out) C
TP920(220VDC) R

19PC–C/D/E PARTS LIST (CONTINUED)

Q204	EP15X88	Video Amp, NPN, Silicon
Q207	EP15X57	Video Amp, PNP, Silicon
Q300	EP15X226	Burst Gate, NPN, Silicon
Q601	EP15X105	Vertical Output, NPN, Silicon
Q603	EP15X105	Vertical Driver, NPN, Silicon
Q701	EP15X19	Horizontal Driver, NPN, Silicon
Q901	EP15X88	Error Amp, NPN, Silicon
Q903	EP15X91	Regulator Control, NPN, Silicon
Q905	EP15X57	Regulator Trigger, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y190	EU16X11	Silicon
Y192	EU16X11	Silicon (PC–C/D)
Y194	EP16X58	17 Volt, Zener
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X147	Schockley
Y350	EP16X58	17 Volt, Zener
Y352	EP16X58	17 Volt, Zener
Y354	EP16X58	17 Volt, Zener
Y503	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP57X5	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
Y939	EP57X4	Rectifier, Silicon (PC–E Only)
Y951	EP16X19	5.6 Volt, Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
* Y957	EP16X148	36 Volt, Zener
* Y958	EP16X148	36 Volt, Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963A	EP16X154	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Silicon
Y992	EP57X5	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
CF100	EP41X126	FILTER-Ceramic, 4.5mhz, Audio
CF212	EP41X133	TRAP-Ceramic, 3.58mhz
L101	EP36X442	CHOKE-.82uh, 10%
L102	EP36X442	CHOKE-.82uh, 10%
L104	EP36X4	CHOKE-9.2uh
L105	EP36X312	COIL-4.5mc, Trap
L106	EP36X433	COIL-45.75mhz, Molded
L107	EP36X433	COIL-45.75mhz, Molded
L108	EP36X468	COIL-IF & 41.25mhz, Trap
L180	EP36X144	CHOKE-27uh, 5%
L190	EP36X435	COIL-Quad.
L196	ES36X82	CHOKE-220uh, 20%
L200	EP36X314	CHOKE-30uh, 10%
L204	EP36X17	CHOKE-150uh, 10%
L220	EP36X439	COIL-Delay Line
L236	EP36X136	CHOKE-15uh, 10%
L300	EP36X23	CHOKE-12uh, 5%
L320	EP36X33	CHOKE-56uh, 5%
L321	EP36X33	CHOKE-56uh, 5%
L322	EP36X33	CHOKE-56uh, 5%
* L703	EP36X437	CHOKE-Filament, H.V. Tuning
* L901	EP36X440	COIL-Line Choke Filter
L903	EP36X436	COIL-Filament Choke
* L909	EP36X441	CHOKE-3mh, Regulator
L921	EP36X477	CHOKE-82uh, 5%
L929	EP36X437	CHOKE-Filament, H.V. Tuning
SF101	EP41X123	WAVE FILTER
T192	EP64X58	TRANSFORMER-Audio Output
* T701	EP77X56	TRANSFORMER-H.V.
* T703	EP64X57	TRANSFORMER-Buffer
- X300	EP41X10	CRYSTAL–Quartz

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	– EP60X13	AIR GAP-For H. V. T.
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903 (4 Used)
*	EP66X19	CORD-AC Power Polarized, Wired-In-Type
FB921	EP12X8	FERRITE BEAD
FB963A	EP12X8	FERRITE BEAD
* F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
* F903	EP10X27	FUSE-1.25amp, 250V, Snap-In, Fast Acting
	EP3X38	WASHER-Shoulder, SCR903, Q601 Q603

RGB CIRCUIT BOARD ASM

EP93X377

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EU22X216	.01uf, 20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C406	EP18X270	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C490	EP18X267	4700pf, 20%, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, 1/8W, Carbon
R404	EP14X289	430 ohm, 5%, 1/8W, Carbon
R405	ES14X59	560 ohm, 5%, 1/8W, Carbon
R411	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R413	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, 1/8W, Carbon
R415	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, 1/8W, Carbon
R418	EP14X128	330 ohm, 5%, 1/8W, Carbon
R419	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R424	EP14X187	100 ohm, 5%, 1/8W, Carbon
R426	EP14X187	100 ohm, 5%, 1/8W, Carbon
R428	ES14X70	100 ohm, 5%, 1/8W, Carbon
R430	EP14X131	1 meg ohm, 10%, 1/4W, Carbon
R434	EP14X329	200 ohm, 5%, 1/8W, Carbon
R436	EP14X329	200 ohm, 5%, 1/8W, Carbon
R438	EP14X329	200 ohm, 5%, 1/8W, Carbon
R454	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R456	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R458	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R464	ES14X64	2K ohm, 5%, 1/8W, Carbon
R466	ES14X64	2K ohm, 5%, 1/8W, Carbon
R468	ES14X64	2K ohm, 5%, 1/8W, Carbon
* R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
* R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
* R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	Red Drive, 150 ohm, 20%
R446	EP49X469	Green Drive, 150 ohm, 20%
R448	EP49X469	Blue Drive, 150 ohm, 20%
R474	EP49X470	Red Cut Off, 5K ohm, 20%
R476	EP49X470	Green Cut Off, 5K ohm, 20%
R478	EP49X470	Blue Cut Off, 5K ohm, 20%

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	Red Amp, NPN, Silicon
Q406	EP15X61	Green Amp, NPN, Silicon
Q408	EP15X61	Blue Amp, NPN, Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L403	ES36X82	CHOKE-220uh, 10%,

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL4	EP8X91	CONNECTOR-8 Pos.
RL5	EP8X68	CONNECTOR-2 Pos.
	EP34X65	SOCKET-CRT

February 23,1982
(3674A) (Penney's 4663A) (WARDS 4789A)
1-Added Description for Transistors & Diode
2-C416 Was EP31X35 50V 6/29/82
3-C416 Was EP31X108 10% 11/15/82
4-C416 Deleted EP31X171 10uf, 20%, 100V, Elect. 3/28/83
5-R406 Deleted EP14X140 330K ohm, 5%, 1/4W, Carbon
6-R407 Deleted EP14X125 47K ohm, 5%, 1/8W, Carbon
7-R419 Deleted EP14X183 3.3K ohm, 5%, 1/4W, Carbon
8-Y402 Deleted EP16X58 Diode
9-R430 Was Common 1 meg ohm, 5%, 1/4W, Carbon 7/11/83

HORIZ. HEAT SINK BOARD ASM

EP93X453

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C1901	ES18X13	330pf, 20%, 2KV, Cer. Disc
* C1903	EP25X145	.011uf, 5%, 1.5KV, Polyester
* C1904	EP25X152	.1uf, 10%, 200V, Polypropylene
* C1905	EP25X91	.47uf, 10%, 400V, Polyester
C1907	EP18X207	330pf, 20%, 500V, Cer. Disc
C1915	EP25X151	2700pf, 10%, 200V, Mylar

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
* R1901	EP14X322	100 ohm, 10%, 5W, Wirewound
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	Horiz. Output Damper, NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y1903	EP57X5	Rectifier, Silicon
Y1905	EP57X5	Rectifier, Silicon
Y1907	EP57X5	Rectifier, Silicon

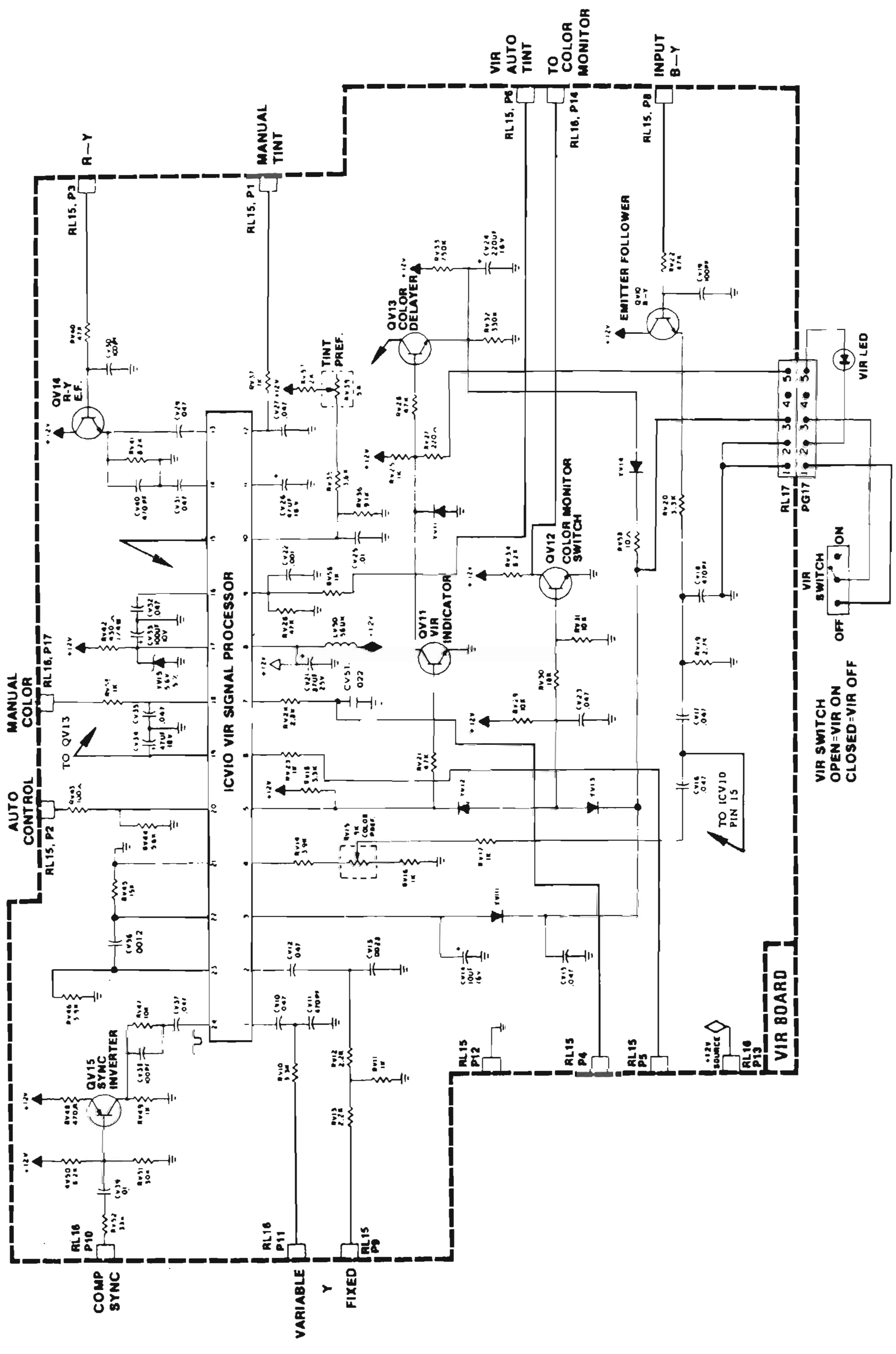
COILS

REF. NO.	PART NO.	DESCRIPTION
* L1901	EP36X443	COIL-Width
L1903	EU36X536	CHOKE-5.6uh, 10%
* T1901	EP36X444	COIL-Pincushion Asm

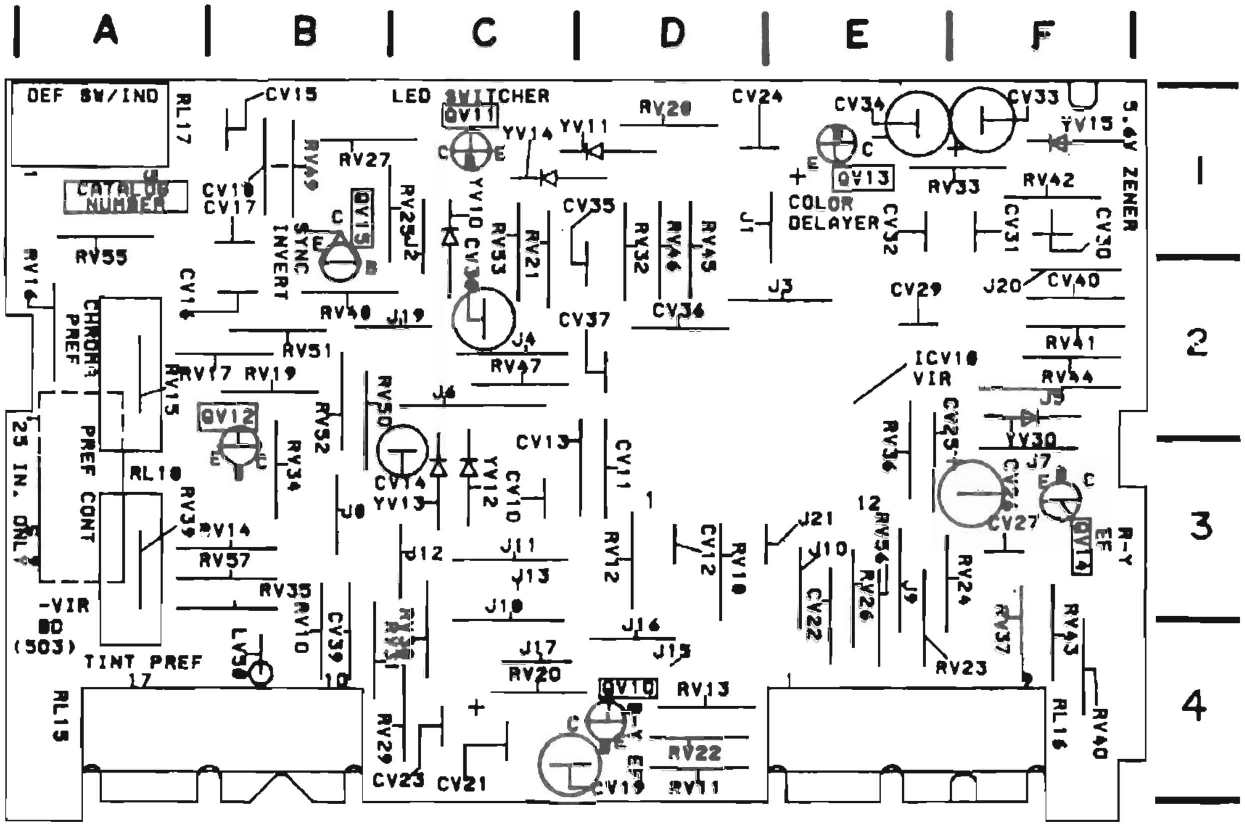
MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL12	EP8X30	CONNECTOR-1 Pin
FB1901	EP12X2	FERRITE-Bead
FB1903	EP12X2	FERRITE-Bead
R1903	EP49X160	HORIZ CENTERING
	EP3X52	SPACER-Q1901

PC/VIR BOARD (EP93X462) SCHEMATIC DIAGRAM



PC/VIR CIRCUIT BOARD (EP93X462) COMPONENT LAYOUT



COMPONENT SIDE

CAPACITORS

- CV10—B1
- CV11—D3
- CV12—D3
- CV13—D2
- CV14—C3
- CV15—B1
- CV16—A2
- CV17—B1
- CV19—D4
- CV21—C4
- CV22—E3
- CV23—C4
- CV24—D1
- CV25—E2
- CV26—F3
- CV27—F3
- CV29—E2
- CV38—C2
- CV30—F1
- CV31—F1
- CV32—E1
- CV33—F1
- CV34—E1
- CV35—D1
- CV36—D2
- CV37—D2
- CV39—B3
- CV40—F2

RESISTORS

- RV10—B3
- RV11—D4
- RV12—D3
- RV13—D4
- RV14—B3
- RV15—A2
- RV16—A2
- RV17—B2
- RV19—B2
- RV28—D1
- RV20—C4
- RV22—D4
- RV23—E4
- RV24—F3
- RV25—C1
- RV26—E3
- RV27—B1
- RV29—C4
- RV30—C3
- RV31—B3
- RV32—D1
- RV33—E1
- RV34—B3
- RV35—B3
- RV36—E2
- RV37—F3
- RV39—A3
- RV40—F4
- RV48—B2
- RV41—F2
- RV42—F1
- RV43—F3
- RV44—F2
- RV45—D1
- RV46—D1
- RV47—C2
- RV49—B1
- RV50—B2
- RV51—B2
- RV52—B2
- RV53—C1
- RV55—A1
- RV56—E3
- RV57—B3

DIODES

- YV10—C1
- YV11—D1
- YV12—C3
- YV13—C3
- YV14—C1
- YV15—F1
- YV30—F2

TRANSISTORS

- QV10—D4
- QV11—C1
- QV12—B2
- QV13—E1
- QV14—F3
- QV15—B1

RECEPTACLES

- RL10—A3
- RL15—A4
- RL16—F4
- RL17—A1

INTEGRATED CIRCUIT

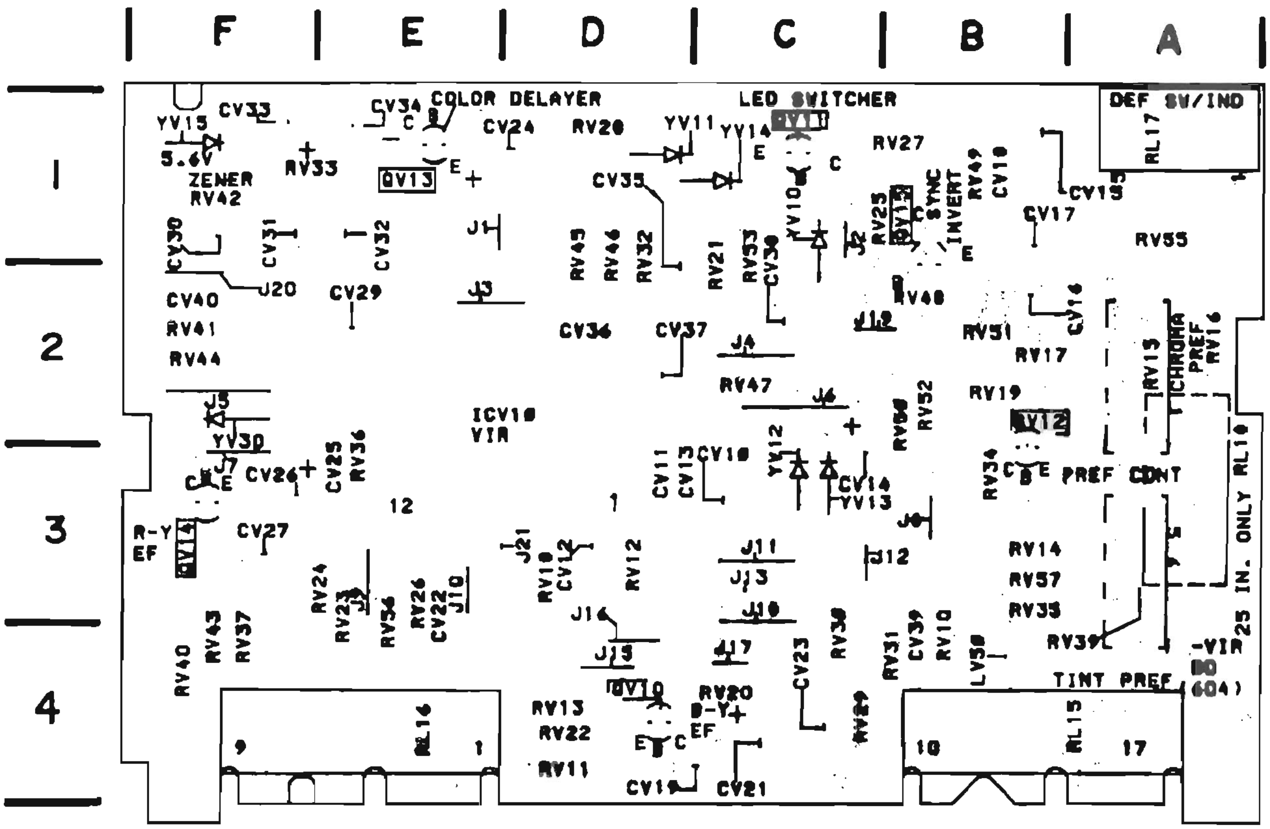
- ICV10—E2

COIL

- LV50—B4

3/85 Supersedes 6/84 (4-30)

PC/VIR CIRCUIT BOARD (EP93X462) COMPONENT LAYOUT (CONT.)



COPPER SIDE

CAPACITORS
CV10—B1
CV11—D3
CV12—D3
CV13—D2
CV14—C3
CV15—B1
CV16—A2
CV17—B1
CV19—D4
CV21—C4
CV22—E3
CV23—C4
CV24—D1
CV25—E2
CV26—F3
CV27—F3
CV29—E2
CV38—C2
CV30—F1
CV31—F1
CV32—E1
CV33—F1
CV34—E1
CV35—D1
CV36—D2
CV37—D2
CV39—B3
CV40—F2

RESISTORS	
RV10—B3	RV48—B2
RV11—D4	RV41—F2
RV12—D3	RV42—F1
RV13—D4	RV43—F3
RV14—B3	RV44—F2
RV15—A2	RV45—D1
RV16—A2	RV46—D1
RV17—B2	RV47—C2
RV19—B2	RV49—B1
RV28—D1	RV50—B2
RV20—C4	RV51—B2
RV22—D4	RV52—B2
RV23—E4	RV53—C1
RV24—F3	RV55—A1
RV25—C1	RV56—E3
RV26—E3	RV57—B3
RV27—B1	
RV29—C4	
RV30—C3	
RV31—B3	
RV32—D1	
RV33—E1	
RV34—B3	
RV35—B3	
RV36—E2	
RV37—F3	
RV39—A3	
RV40—F4	

DIODES
YV10—C1
YV11—D1
YV12—C3
YV13—C3
YV14—C1
YV15—F1
YV30—F2

TRANSISTORS
QV10—D4
QV11—C1
QV12—B2
QV13—E1
QV14—F3
QV15—B1

RECEPTACLES
RL10—A3
RL15—A4
RL16—F4
RL17—A1

INTEGRATED CIRCUIT
ICV10—E2

COIL
LV50—B4

PC/VIR BOARD (EP93X462) REPLACEMENT PARTS LIST

VIR CIRCUIT BOARD ASM

EP93X462

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
CV10	EP25X87	.047uf, 20%, 50V, Polyester
CV11	EP18X204	470pf, 10%, 50V, Cer. Disc
CV12	EP25X87	.047uf, 20%, 50V, Polyester
CV13	EP18X198	2200pf, 30%, 25V, Cer. Disc
CV14	EP31X149	10uf, 10%, 16V, Elect.
CV15	EP25X87	.047uf, 20%, 50V, Polyester
CV16	EP25X87	.047uf, 20%, 50V, Polyester
CV17	EP25X87	.047uf, 20%, 50V, Polyester
CV18	EP18X204	470pf, 10%, 50V, Cer. Disc
CV19	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV21	EP31X169	100uf, 10%, 25V, Elect.
CV22	EP18X197	1000pf, 20%, 50V, Cer. Disc
CV23	EP25X87	.047uf, 20%, 50V, Polyester
CV24	EP31X141	220uf, 10%, 16V, Elect.
CV25	EP18X169	.01uf, 30%, 25V, Cer. Disc
CV26	EP31X45	47uf, 10%, 16V, Elect.
CV27	EP25X87	.047uf, 20%, 50V, Polyester
CV29	EP25X87	.047uf, 20%, 50V, Polyester
CV30	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV31	EP25X87	.047uf, 20%, 50V, Polyester
CV32	EP25X87	.047uf, 20%, 50V, Polyester
CV33	EP31X162	100uf, 10%, 10V, Elect.
CV34	EP31X45	47uf, 10%, 16V, Elect.
CV35	EP25X87	.047uf, 20%, 50V, Polyester
CV36	EP18X271	1200pf, 20%, 50V, HiK, Cer. Disc
CV37	EP25X87	.047uf, 20%, 50V, Polyester
CV38	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV39	EP18X169	.01uf, 30%, 25V, Cer. Disc
CV40	EP18X204	470pf, 10%, 50V, Cer. Disc
CV45	EP31X166	1uf, 20%, 50V, Elect.
CV51	EP18X214	.022uf, 20%, 500V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
RV10	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
RV11	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
RV12	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
RV13	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV14	EP14X437	3.9K ohm, 5%, 1/4W, Carbon
RV16	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV17	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV18	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
RV19	EP14X304	2.7K ohm, 5%, 1/4W, Carbon
RV20	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
RV21	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV22	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV23	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV24	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
RV25	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV26	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV27	EP14X129	220 ohm, 5%, 1/4W, Carbon
RV28	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV29	EP14X103	10K ohm, 5%, 1/4W, Carbon
RV30	EP14X414	18K ohm, 5%, 1/4W, Carbon
RV31	EP14X103	10K ohm, 5%, 1/4W, Carbon
RV32	EP14X140	330K ohm, 5%, 1/4W, Carbon
RV33	EP14X438	750K ohm, 5%, 1/4W, Carbon
RV34	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
RV35	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
RV36	EP14X370	9.1K ohm, 5%, 1/4W, Carbon
RV37	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV40	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV41	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
RV42	EP14X289	430 ohm, 5%, 1/4W, Carbon
RV43	ES14X70	100 ohm, 5%, 1/4W, Carbon
RV44	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
RV45	EP14X398	15K ohm, 5%, 1/4W, Carbon
RV46	EP14X437	3.9K ohm, 5%, 1/4W, Carbon
RV47	EP14X103	10K ohm, 5%, 1/4W, Carbon
RV48	ES14X58	470 ohm, 5%, 1/4W, Carbon
RV49	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV50	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
RV51	EP14X419	30K ohm, 5%, 1/4W, Carbon
RV52	EP14X136	33K ohm, 5%, 1/4W, Carbon
RV53	EP14X409	10 ohm, 5%, 1/4W, Carbon
RV55	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV56	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV57	ES14X64	2K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
RV15	EP49X472	5K ohm, 20%
RV39	EP49X472	5K ohm, 20%

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
ICV10	EP84X60	MONO

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
QV10	EP15X88	NPN, Silicon
QV11	EP15X88	NPN, Silicon
QV12	EP15X88	NPN, Silicon
QV13	EP15X88	NPN, Silicon
QV14	EP15X88	NPN, Silicon
QV15	EP15X48	PNP, Silicon

DIODES

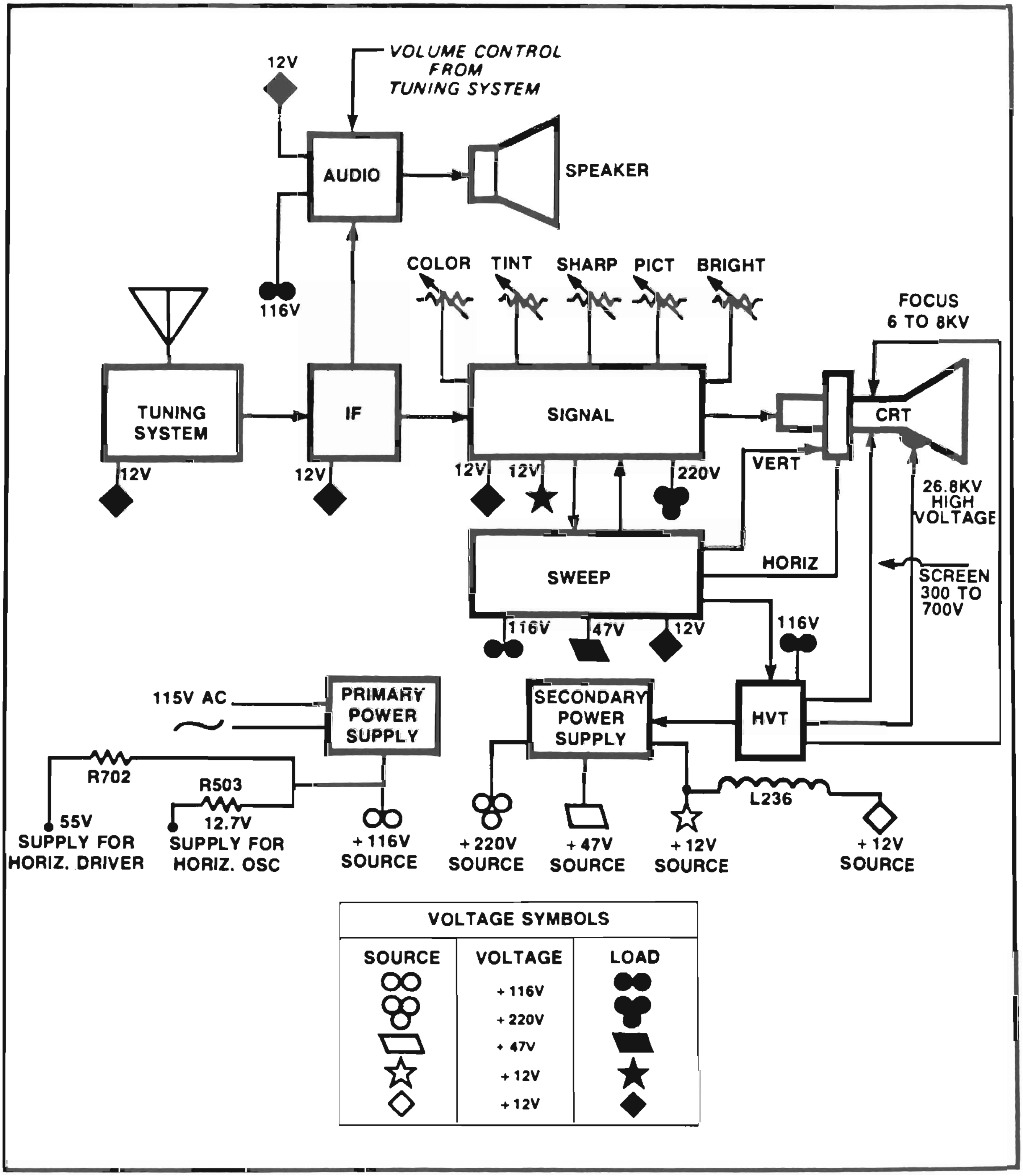
REF. NO.	PART NO.	DESCRIPTION
YV10	EU16X11	Silicon
YV11	EU16X11	Silicon
YV12	EU16X11	Silicon
YV13	EU16X11	Silicon
YV14	EU16X11	Silicon
YV15	EP16X19	Zener, 1W

COIL

REF. NO.	PART NO.	DESCRIPTION
LV50	EP36X33	CHOKE-56uh, 5%

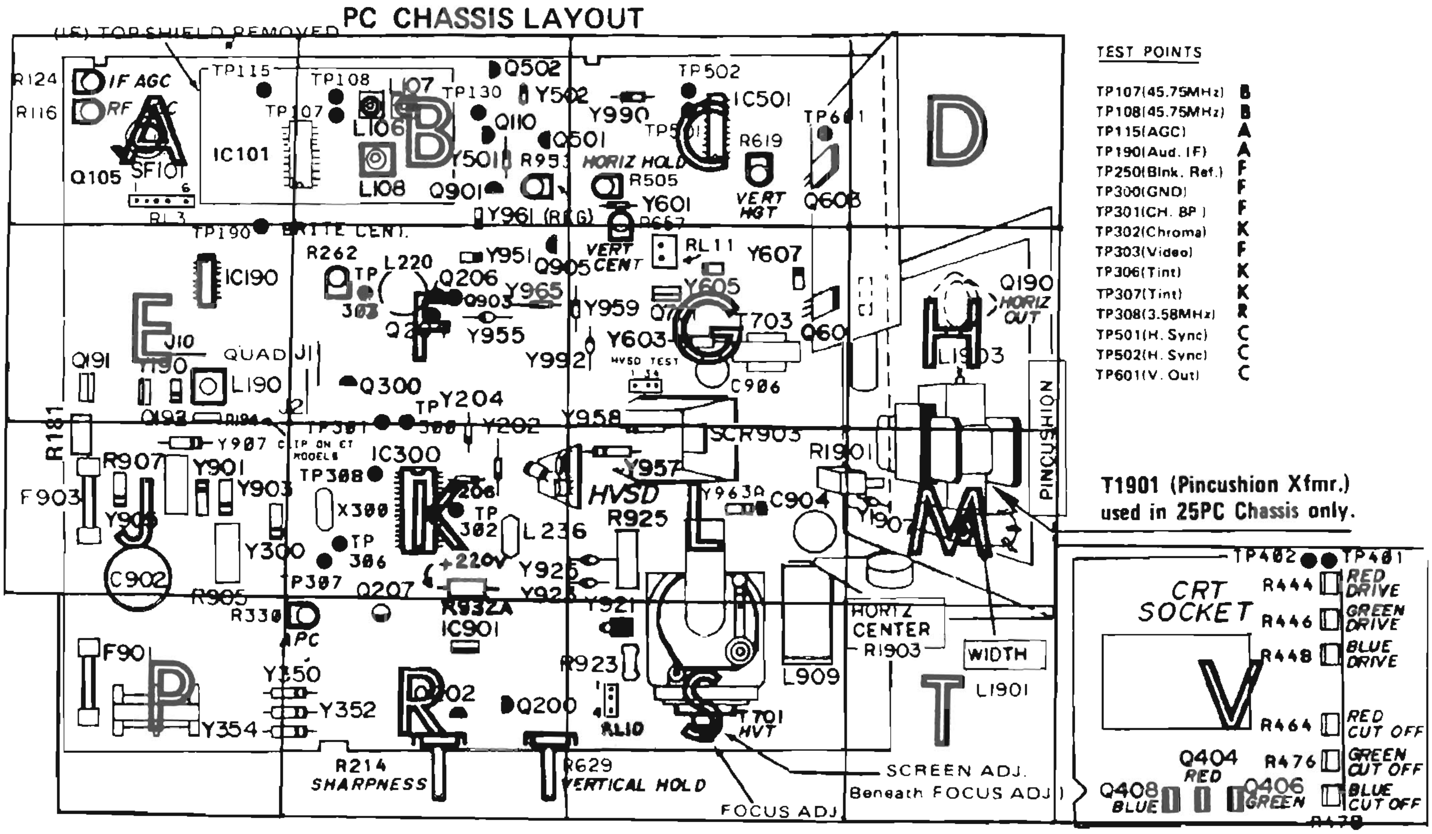
PC CHASSIS BLOCK DIAGRAM

WITH SOURCE VOLTAGES AND SYMBOLS CHART



PC CHASSIS LAYOUT

BOXED RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR ADJUSTMENTS, COMPONENTS, AND TEST POINTS LOCATION (see PC Chassis Layout below).



19PC-F/H Parts List (Cont.)

R932A	EP14X378	120 ohm, 5%, 1/4W, Carbon
R933	EP14X403	220K ohm, 5%, 1/2W, Carbon
★R935	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
★R936	EU13X4	1K ohm, 5%, 1/2W, Carbon
★R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R939	EP14X187	100 ohm, 5%, 1/2W, Carbon
★R941	EP14X54	18 ohm, 5%, 2W, Metal Oxide
R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
R952	EP14X457	1.8 meg. ohm, 5%, 1/4W, Carbon
R954	EP14X105	100K ohm, 5%, 1/4W, Carbon
R955	EP14X252	3.9K ohm, 2%, 1/8W, Carbon
R957	EP14X284	1K ohm, 5%, 1/8W, Carbon
R959	EP14X284	IK ohm, 5%, 1/8W, Carbon
R961	ES14X71	IK ohm, 5%, 1/4W, Carbon
R963	EP14X318	220 ohm, 5%, 1/4W, Carbon
R965	EP14X394	6.2K ohm, 5%, 1/8W, Carbon
R969	ES14X56	33 ohm, 5%, 1/2W, Carbon
R971	EP14X128	330 ohm, 5%, 1/2W, Carbon
R973	ES14X58	470 ohm, 5%, 1/2W, Carbon
★R975	EP14X275	1K ohm, 10%, 3W, Wirewound
R981	EP14X318	3 ohm, 10%, 5W, Wirewound
★R983	EP14X368	1.6K ohm, 5%, 1W, Metal Oxide
R985	EP14X396	240 ohm, 5%, 1/8W, Carbon
R990	EP14X443	110 ohm, 5%, 1/2W, Metal Oxide
R996	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R998	EP14X398	15K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R116	EP49X463	RF/AFC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X464	Sharpness, IK ohm, 20%
R262	EP49X463	Brightness, 5K ohm, 20%
R330	EP49X465	APC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg., IK ohm, 20%

INTERGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
	EP62X167	HVSD-Thick Film
IC101	EP84X213	VIF/Det/AFC
IC190	EP84X216	IF/Sound
IC300	EP84X221	Chroma/Video
IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V, 3 Ter. Regulator

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
SCR903	EP15X217	SCR Regulator, PNP
Q105	EP15X104	Pre Amp, HF, BIPolar
Q110	EP15X87	Video Emitter Follower NPN, Silicon
Q188	EP15X88	NPN, Silicon
Q191	EP15X228	NPN, Silicon
Q193	EP15X222	PNP, Silicon
Q200	EP15X88	Regulator, NPN, Silicon
Q202	EP15X48	Beam Limiter, PNP, Silicon
Q204	EP15X88	Video Amp, NPN, Silicon
Q207	EP15X225	Video Amp, PNP, Silicon
Q300	EP15X226	Burst Gate, NPN, Silicon
Q501	EP15X86	NPN, Silicon
Q502	EP15X87	NPN, Silicon
Q601	EP15X105	Vertical Output, NPN, Silicon
Q603	EP15X105	Vertical Driver, NPN, Silicon
Q701	EP15X123	Horizontal Driver, NPN, Silicon
Q901	EP15X88	Error Amp, NPN, Silicon
Q903	EP15X91	Regulator Control, NPN, Silicon
Q905	EP15X225	Regulator Trigger, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y190	ES16X27	Silicon
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X3	GER.
Y350	EP16X58	17 Volt, Zener
Y352	EP16X58	17 Volt, Zener
Y354	EP16X58	17 Volt, Zener
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP16X154	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
Y939	EP57X4	Rectifier, Silicon
Y951	EP16X19	5.6 Volt, Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
★Y957	EP16X148	36 Volt, Zener
★Y958	EP16X148	36 Volt, Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963A	EP16X154	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Rectifier, Silicon
Y992	EP57X5	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
CF100	EP41X126	FILTER-Ceramic, 4.5mhz, Audio
CF105	EP41X143	CERAMIC TRAP-4.5mhz
CF212	EP41X153	TRAP-Ceramic, 3.58mhz
L102	EP36X442	CHOKE-.82uh, 10%
L106	EP36X433	COIL-45.75mhz, Molded
L107	EP36X433	COIL-45.75mhz, Molded
L108	EP36X468	COIL-IF & 41.25mhz, Trap
L150	EP36X136	CHOKE-15uh, 5%
L180	EP36X144	CHOKE-27uh, 5%
L190	EP36X435	COIL-Quad.
L200	EP36X314	CHOKE-30uh, 10%
L204	EP36X17	CHOKE-150uh, 10%
L212	EP36X136	CHOKE-15uh, 5%
L220	EP36X459	COIL-Delay Line
L236	EP36X136	CHOKE-15uh, 10%
L300	EP36X23	CHOKE-12uh, 5%
L320	EP36X33	CHOKE-56uh, 5%

(CONTINUED)

19PC F/H Parts List Cont.

L321	EP36X33	CHOKE-56uh, 5%
L322	EP36X33	CHOKE-56uh, 5%
★L703	EP36X437	CHOKE-Filament, H.V. Tuning
★L901	EP36X440	COIL-Line Choke Filter
L903	EP36X436	COIL-Filament Choke
★L909	EP36X441	CHOKE-3mh, Regulator
L921	EP36X477	CHOKE-82uh, 5%
L929	EP36X437	CHOKE-Filament, H.V. Tuning
SF101	EP41X152	WAVE FILTER
★T701	EP77X64	TRANSFORMER-H.V.
★T703	EP64X57	TRANSFORMER-Buffer
X300	EP41X10	CRYSTAL-Quartz

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP60X13	AIR GAP-For H. V. T.
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903 (4 Used)
★	EP66X19	CORD-AC Power Polarized, Wired-In-Type
FB921	EP12X8	FERRITE BEAD
FB963A	EP12X8	FERRITE BEAD
★F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
★F903	EP10X27	FUSE-1.25 amp, 250V, Snap-In Fast Acting (PC-F only)
★F903	EP10X57	FUSE-I.25amp, 250V, Snap-In, Med Acting (PC-H only)
	EP3X38	WASHER-Shoulder, SCR903, Q601 Q603

RGB CIRCUIT BOARD

EP93X550

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EP18X26	.01uf, +80-20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, Hik, Cer. Disc
C406	EP18X270	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X205	560pf, 20%, 50V, HiK, Cer. Disc
C410	EP18X74	330pf, 20%, 50V, HiK, Cer. Disc
C490	EP18X267	4700pf, +80-20%, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, I/4W, Carbon
R404	EP14X289	430 ohm, 5%, I/4W, Carbon
R405	ES14X59	560 oh, 5%, 1/4W, Carbon
★R411	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
★R413	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, I/4W, Carbon
★R415	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, I/4W, Carbon
R418	EP14X128	330 ohm, 5%, I/4W, Carbon
★R419	EP14X38	3.3K ohm, 5%, I/4W, Carbon
★R424	ES14X70	100 ohm, 5%, I/4W, Carbon
★R426	ES14X70	100 ohm, 5%, I/4W, Carbon
★R428	ES14X70	100 ohm, 5%, I/8W, Carbon
R430	EP14X131	1meg ohm, 10%, 1/4W, Carbon
★R434	EP14X329	200 ohm, 5%, I/4W, Carbon
★R436	EP14X329	200 ohm, 5%, I/4W, Carbon
★R438	EP14X318	220 ohm, 5%, I/8W, Carbon
R454	ES14X65	4.7K ohm, 5%, I/4W, Carbon
R456	ES14X65	4.7K ohm, 5%, I/4W, Carbon
R458	ES14X65	4.7K ohm, 5%, I/4W, Carbon
★R464	EP14X381	3K ohm, 5%, I/4W, Carbon
★R466	EP14X381	3K ohm, 5%, I/8W, Carbon
★R468	EP14X381	3K ohm, 5%, I/4W, Carbon
★R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	Red Drive, 150 ohm, 20%
R446	EP49X469	Green Drive, 150 ohm, 20%
R448	EP49X469	Blue Drive, 150 ohm, 20%
R474	EP49X470	Red Cut Off, 5K ohm, 20%
R476	EP49X470	Green Cut Off, 5K ohm, 20%
R478	EP49X470	Blue Cut Off, 5K ohm, 20%

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	RED DRIVE-NPN, Silicon
Q406	EP15X61	GREEN DRIVE-NPN, Silicon
Q408	EP15X61	BLUE DRIVE-NPN, Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L403	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL4	EP8X91	CONNECTOR-8 Pos.
	★EP34X69	SOCKET-CRT
	EP2X1	TERMINAL-Speaker Lead Type

HORIZ HEAT SINK CIRCUIT BOARD

EP93X536

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
★C1901	ES18X13	330pf, 20%, 2KV, Cer. Disc
★C1903	EP25X185	.01uf, 5%, 1.5KV, Polyproplyene
★C1904	EP25X152	.1uf, 10%, 200V Polyproplyene
C1905	EP25X91	.47uf, 10%, 400V, Polyester
C1907	EP18X217	330pf, 20%, 500V, Cer. Disc
C1909	EP25X151	2700pf, 10%, 100V, Mylar
C1915	EP25X151	2700pf, 10%, 200V, Mylar

(CONTINUED)

19 PC-F/H Parts List (Cont.)

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1901	EP14X322	100 ohm, 10%, 5W, Wirewound
R1907	EP14X187	100 ohm, 5%, 1/2W, Carbon
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	HORIZ CENTERING-500 ohm, 10%

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	HORIZ OUTPUT-NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y1903	EP57X5	Rectifier, 400V
Y1905	EP57X5	Rectifier, 400V
Y1907	EP57X5	Rectifier, 400V

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
★L1901	EP36X443	COIL-Width
L1903	EU36X536	CHOKE-5.6uh, 10%
★L1905	EP36X456	COIL-Linearity

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
FB1901	EP12X2	BEAD-Shield
FB1903	EP12X2	BEAD-Shield
	EU3X532	CLIP-Ground
	EP3X52	SPACER-Q1901

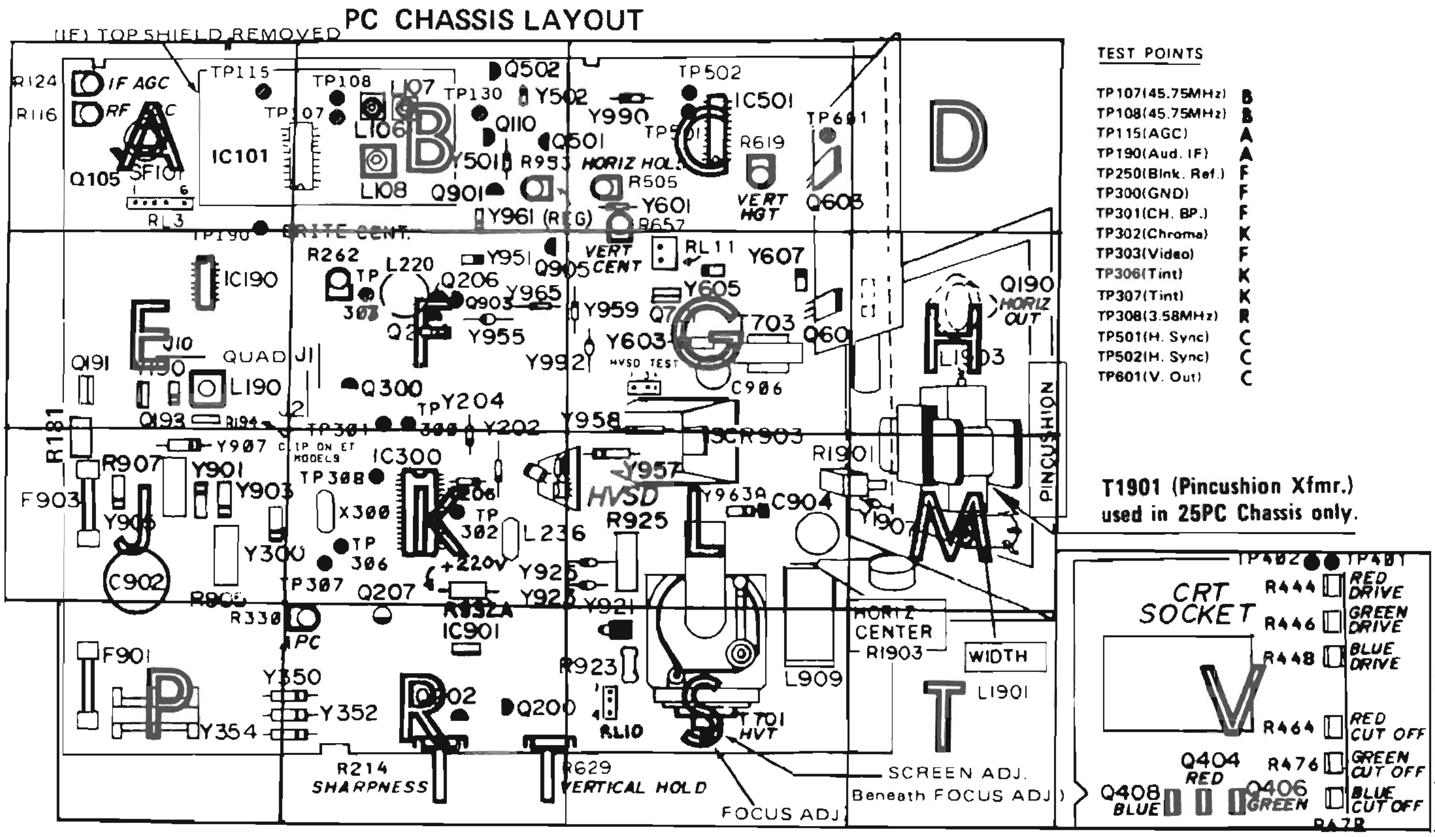
IMPORTANT SAFETY NOTICE

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PC CHASSIS LAYOUT

BOXED RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR ADJUSTMENTS, COMPONENTS, AND TEST POINTS LOCATION (see PC Chassis Layout below).

PC CHASSIS LAYOUT



TEST POINTS

TP107(45.75MHz)	B
TP108(45.75MHz)	B
TP115(AGC)	A
TP190(Aud. IF)	A
TP250(Blnk. Ref.)	F
TP300(GND)	F
TP301(CH. BP.)	F
TP302(Chroma)	K
TP303(Video)	F
TP306(Tint)	K
TP307(Tint)	K
TP308(3.58MHz)	R
TP501(H. Sync)	C
TP502(H. Sync)	C
TP601(V. Out)	C

T1901 (Pincushion Xfmr.) used in 25PC Chassis only.

19PC-J Parts List (Cont.)

R623	EP14X424	8.2K ohm, 5%, l/4W, Carbon
R625	EP14X220	180 ohm, 5%, l/4W, Carbon
R627	EP14X243	2.2K ohm, 5%, l/4W, Carbon
R631	EP14X456	6.8K ohm, 5%, l/4W, Carbon
R633	EP14X424	8.2K ohm, 5%, l/4W, Carbon
R635	EP14X220	180 ohm, 5%, l/8W, Carbon
R637	ES14X70	100 ohm, 5%, l/4W, Carbon
R639	ES14X71	1K ohm, 5%, l/4W, Carbon
R641	EP14X188	15 ohm, 5%, l/2W, Carbon
★R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
★R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
★R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R649	EP14X183	3.3K ohm, 5%, l/4W, Carbon
R655	EP14X130	2.7K ohm, 5%, l/2W, Carbon
★R702	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
★R703	EP14X348	.47 ohm, 5%, 2W, Metal Oxide
★R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
★R900	EP14X106	1 meg ohm, 5%, l/2W, Carbon
★R901	EP14X113	THERMISTER
R903	EP14X105	100K ohm, 5%, l/2W, Carbon
★R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
★R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
★R921	ES14X80	2.2 ohm, 5%, l/2W, Flame Proof
R923	ES14X79	1 ohm, 5%, l/2W, Flame Proof
★R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
★R927	ES14X80	2.2 ohm, 5%, l/2W, Flame Proof
R929	EP14X210	.82 ohm, 5%, 1W, Metal Oxide
R932	EP14X378	120 ohm, 5%, l/4W, Carbon
R932A	EP14X378	120 ohm, 5%, l/4W, Carbon
R933	EP14X403	220K ohm, 5%, l/2W, Carbon
★R935	EP14X131	1.8K ohm, 5%, l/2W, Carbon
★R936	EU13X4	1K ohm, 5%, l/2W, Carbon
★R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R939	EP14X187	100 ohm, 5%, l/2W, Carbon
★R941	EP14X54	18 ohm, 5%, 2W, Metal Oxide
R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
R952	EP14X457	1.8 meg, ohm, 5%, l/4W, Carbon
R954	EP14X105	100K ohm, 5%, l/4W, Carbon
R955	EP14X252	3.9K ohm, 2%, l/8W, Carbon
R957	EP14X284	1K ohm, 5%, l/8W, Carbon
R959	EP14X284	lK ohm, 5%, l/8W, Carbon
R961	ES14X71	lK ohm, 5%, l/4W, Carbon
R963	EP14X318	220 ohm, 5%, l/4W, Carbon
R965	EP14X394	6.2K ohm, 5%, l/8W, Carbon
R969	ES14X56	33 ohm, 5%, l/2W, Carbon
R971	EP14X128	330 ohm, 5%, l/2W, Carbon
R973	ES14X58	470 ohm, 5%, 1/2W, Carbon
★R975	EP14X275	1K ohm, 10%, 3W, Wirewound
R981	EP14X318	3 ohm, 10%, 5W, Wirewound
★R983	EP14X368	1.6K ohm, 5%, 1W, Metal Oxide
R985	EP14X396	240 ohm, 5%, l/8W, Carbon
R990	EP14X443	110 ohm, 5%, 1/2W, Metal Oxide
R996	EP14X243	2.2K ohm, 5%, l/8W, Carbon
R998	EP14X398	15K ohm, 5%, l/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R116	EP49X463	RF/AFC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X464	Sharpness, lK ohm, 20%
R262	EP49X463	Brightness, 5K ohm, 20%
R330	EP49X465	APC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg., lK ohm, 20%

INTERGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
	EP62X167	HVSD-Thick Film
IC101	EP84X213	VIF/Det/AFC
IC190	EP84X216	IF/Sound
IC300	EP84X221	Chroma/Video
IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V, 3 Ter. Regulator

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
SCR903	EP15X217	SCR Regulator, PNP
Q105	EP15X104	Pre Amp, HF, BiPolar
Q110	EP15X87	Video Emitter Follower NPN, Silicon
Q188	EP15X88	NPN, Silicon
Q191	EP15X228	NPN, Silicon
Q193	EP15X222	PNP, Silicon
Q200	EP15X88	Regulator, NPN, Silicon
Q202	EP15X48	Beam Limiter, PNP, Silicon
Q204	EP15X88	Video Amp, NPN, Silicon
Q207	EP15X225	Video Amp, PNP, Silicon
Q300	EP15X226	Burst Gate, NPN, Silicon
Q501	EP15X86	NPN, Silicon
Q502	EP15X87	NPN, Silicon
Q601	EP15X105	Vertical Output, NPN, Silicon
Q603	EP15X105	Vertical Driver, NPN, Silicon
Q701	EP15X123	Horizontal Driver, NPN, Silicon
Q901	EP15X88	Error Amp, NPN, Silicon
Q903	EP15X91	Regulator Control, NPN, Silicon
Q905	EP15X225	Regulator Trigger, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y190	ES16X27	Silicon
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X3	GER.
Y350	EP16X58	17 Volt, Zener
Y352	EP16X58	17 Volt, Zener
Y354	EP16X58	17 Volt, Zener
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP16X154	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
Y939	EP57X4	Rectifier, Silicon
Y951	EP16X19	5.6 Volt, Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
★Y957	EP16X148	36 Volt, Zener
★Y958	EP16X148	36 Volt, Zener

(CONTINUED)

19PC-J Parts List (Cont.)

Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963A	EP16X154	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Rectifier, Silicon
Y992	EP57X5	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
CF100	EP41X126	FILTER-Ceramic, 4.5mhz, Audio
CF105	EP41X143	CERAMIC TRAP-4.5mhz
CF212	EP41X153	TRAP-Ceramic, 3.58mhz
L102	EP36X442	CHOKE-.82uh, 10%
L106	EP36X433	COIL-45.75mhz, Molded
L107	EP36X433	COIL-45.75mhz, Molded
L108	EP36X468	COIL-IF & 41.25mhz, Trap
L150	EP36X136	CHOKE-15uh, 5%
L180	EP36X144	CHOKE-27uh, 5%
L190	EP36X435	COIL-Quad.
L200	EP36X314	CHOKE-30uh, 10%
L204	EP36X17	CHOKE-150uh, 10%
L212	EP36X136	CHOKE-15uh, 5%
L220	EP36X459	COIL-Delay Line
L236	EP36X136	CHOKE-15uh, 10%
L300	EP36X23	CHOKE-12uh, 5%
L320	EP36X33	CHOKE-56uh, 5%
L321	EP36X33	CHOKE-56uh, 5%
L322	EP36X33	CHOKE-56uh, 5%
★L703	EP36X437	CHOKE-Filament, H.V. Tuning
★L901	EP36X440	COIL-Line Choke Filter
L903	EP36X436	COIL-Filament Choke
★L909	EP36X441	CHOKE-3mh, Regulator
L921	EP36X477	CHOKE-82uh, 5%
L929	EP36X437	CHOKE-Filament, H.V. Tuning
SF101	EP41X152	WAVE FILTER
★T701	EP77X64	TRANSFORMER-H.V.
★T703	EP64X57	TRANSFORMER-Buffer
X300	EP41X10	CRYSTAL-Quartz

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP60X13	AIR GAP-For H. V. T.
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903 (4 Used)
★	EP66X19	CORD-AC Power Polarized, Wired-In-Type
FB921	EP12X8	FERRITE BEAD
FB963A	EP12X8	FERRITE BEAD
★F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
★F903	EP10X57	FUSE-I.25amp, 250V, Snap-In, Med Acting
	EP3X38	WASHER-Shoulder, SCR903, Q601 Q603

RGB CIRCUIT BOARD

EP93X550

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EP18X26	.01uf, +80-20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, Hik, Cer. Disc
C406	EP18X270	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X205	560pf, 20%, 50V, HiK, Cer. Disc
C410	EP18X74	330pf, 20%, 50V, HiK, Cer. Disc
C490	EP18X267	4700pf, +80-20%, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, I/4W, Carbon
R404	EP14X289	430 ohm, 5%, I/4W, Carbon
R405	ES14X59	560 oh, 5%, 1/4W, Carbon
★R411	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
★R413	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, I/4W, Carbon
★R415	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, I/4W, Carbon
R418	EP14X128	330 ohm, 5%, I/4W, Carbon
★R419	EP14X38	3.3K ohm, 5%, I/4W, Carbon
★R424	ES14X70	100 ohm, 5%, I/4W, Carbon
★R426	ES14X70	100 ohm, 5%, I/4W, Carbon
★R428	ES14X70	100 ohm, 5%, I/8W, Carbon
R430	EP14X131	1meg ohm, 10%, 1/4W, Carbon
★R434	EP14X329	200 ohm, 5%, I/4W, Carbon
★R436	EP14X329	200 ohm, 5%, I/4W, Carbon
★R438	EP14X318	220 ohm, 5%, I/8W, Carbon
R454	ES14X65	4.7K ohm, 5%, I/4W, Carbon
R456	ES14X65	4.7K ohm, 5%, I/4W, Carbon
R458	ES14X65	4.7K ohm, 5%, I/4W, Carbon
★R464	EP14X381	3K ohm, 5%, I/4W, Carbon
★R466	EP14X381	3K ohm, 5%, I/8W, Carbon
★R468	EP14X381	3K ohm, 5%, I/4W, Carbon
★R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	Red Drive, 150 ohm, 20%
R446	EP49X469	Green Drive, 150 ohm, 20%
R448	EP49X469	Blue Drive, 150 ohm, 20%
R474	EP49X470	Red Cut Off, 5K ohm, 20%
R476	EP49X470	Green Cut Off, 5K ohm, 20%
R478	EP49X470	Blue Cut Off, 5K ohm, 20%

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	RED DRIVE-NPN, Silicon
Q406	EP15X61	GREEN DRIVE-NPN, Silicon
Q408	EP15X61	BLUE DRIVE-NPN, Silicon

(CONTINUED)

19PC J Parts List Cont.

COIL

REF. NO.	PART NO.	DESCRIPTION
L403	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL4	EP8X91	CONNECTOR-8 Pos.
★	EP34X69	SOCKET-CRT
	EP2X1	TERMINAL-Speaker Lead Type

HORIZ HEAT SINK CIRCUIT BOARD

EP93X536

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
★C1901	ES18X13	330pf, 20%, 2KV, Cer. Disc
★C1903	EP25X185	.01uf, 5%, 1.5KV, Polyproplyene
★C1904	EP25X152	.1uf, 10%, 200V Polyproplyene
C1905	EP25X91	.47uf, 10%, 400V, Polyester
C1907	EP18X217	330pf, 20%, 500V, Cer. Disc
C1909	EP25X151	2700pf, 10%, 100V, Mylar
C1915	EP25X151	2700pf, 10%, 200V, Mylar

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1901	EP14X322	100 ohm, 10%, 5W, Wirewound
R1907	EP14X187	100 ohm, 5%, 1/2W, Carbon
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	HORIZ CENTERING-500 ohm, 10%

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	HORIZ OUTPUT-NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y1903	EP57X5	Rectifier, 400V
Y1905	EP57X5	Rectifier, 400V
Y1907	EP57X5	Rectifier, 400V

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
★L1901	EP36X443	COIL-Width
L1903	EU36X536	CHOKE-5.6uh, 10%
★L1905	EP36X456	COIL-Linearity

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
FB1901	EP12X2	BEAD-Shield
FB1903	EP12X2	BEAD-Shield
	EU3X532	CLIP-Ground
	EP3X52	SPACER-Q1901

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STC TROUBLESHOOTING CHARTS



PC CHASSIS

TECHNICAL SERVICING GUIDE

For Quick–Reliable Repairs

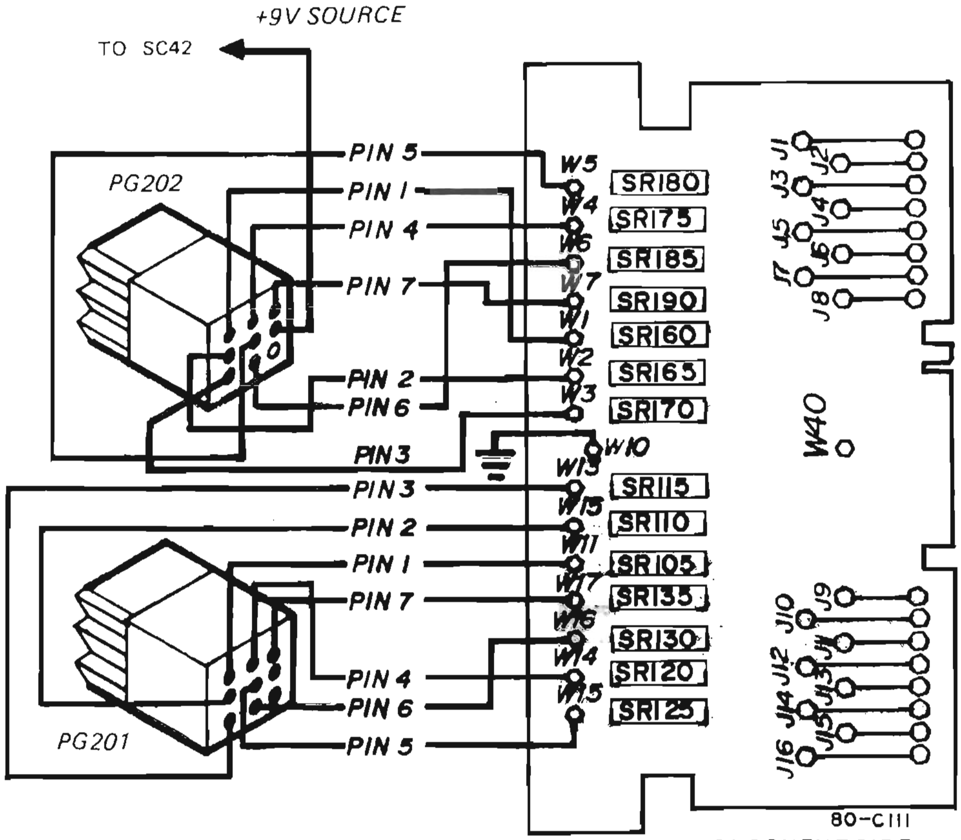
GENERAL ELECTRIC

INDEX TO TROUBLESHOOTING CHARTS

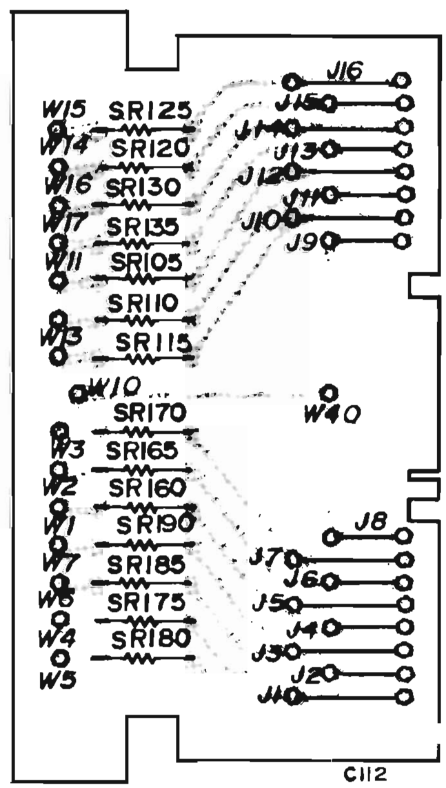
USE THE CHART FOR THE SYMPTOM THAT MOST CLOSELY APPROXIMATES THE CONDITION OF THE RECEIVER UNDER REPAIR.

ET91 RESISTOR BOARD
EP93X294

M-S

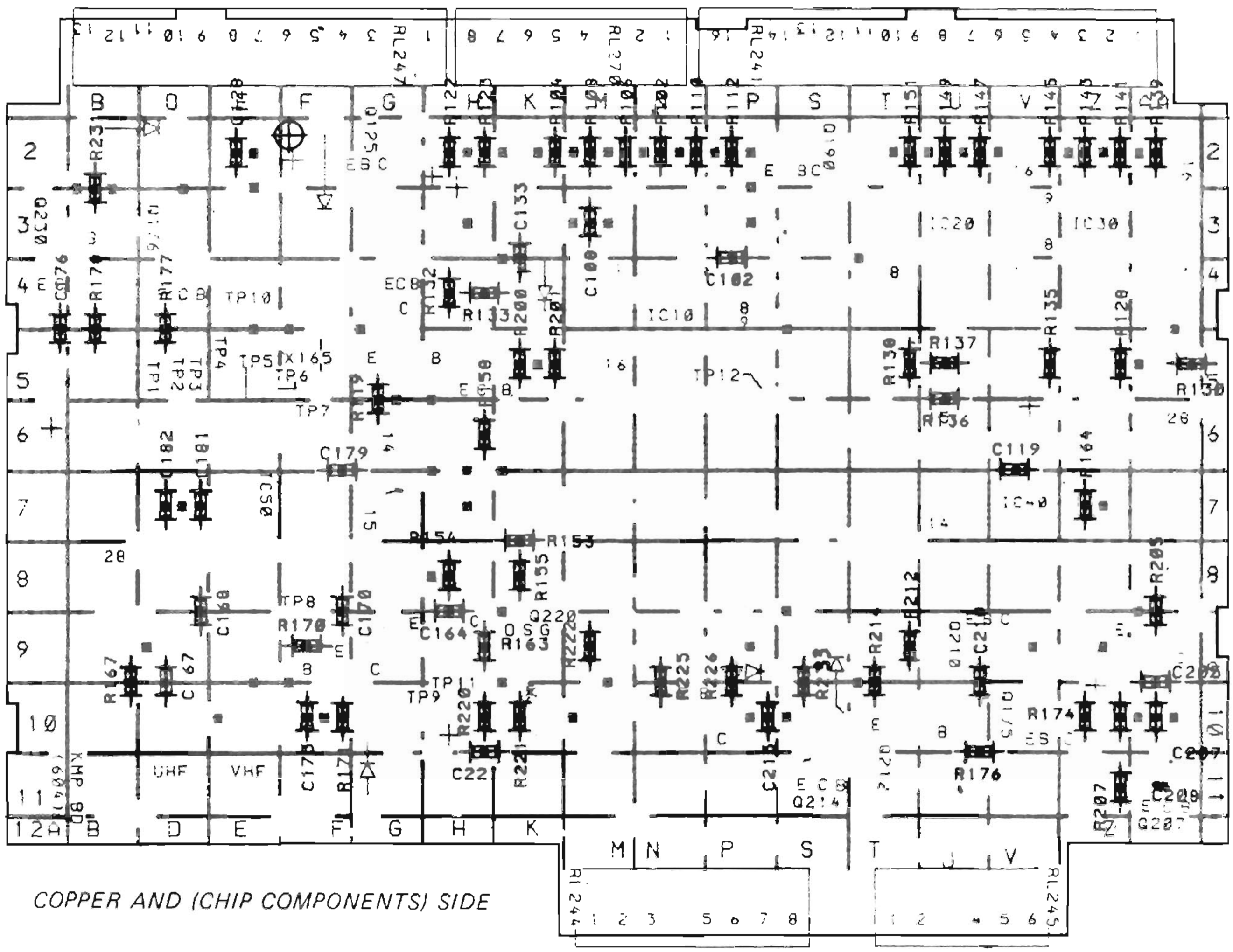


COMPONENT SIDE



COPPER SIDE

KMP91 TUNER CONTROL MODULE (EP93X312) COMPONENT LOCATION



COPPER AND (CHIP COMPONENTS) SIDE

RED COLOR = GRID FOR COMPONENT LOCATION

IC'S	GRID LOCATION	
IC-10	4-5	M-N-P
IC-20	3	T-U-V
IC-30	3	Z-AA
IC-40	6-7-8	U-V-Z-AA
IC-50	6-7-8	B-D-F-G

CHOKES		GRID LOCATION	
L169	Serving Coil	6	E
L179	15uh	6-7-8	B

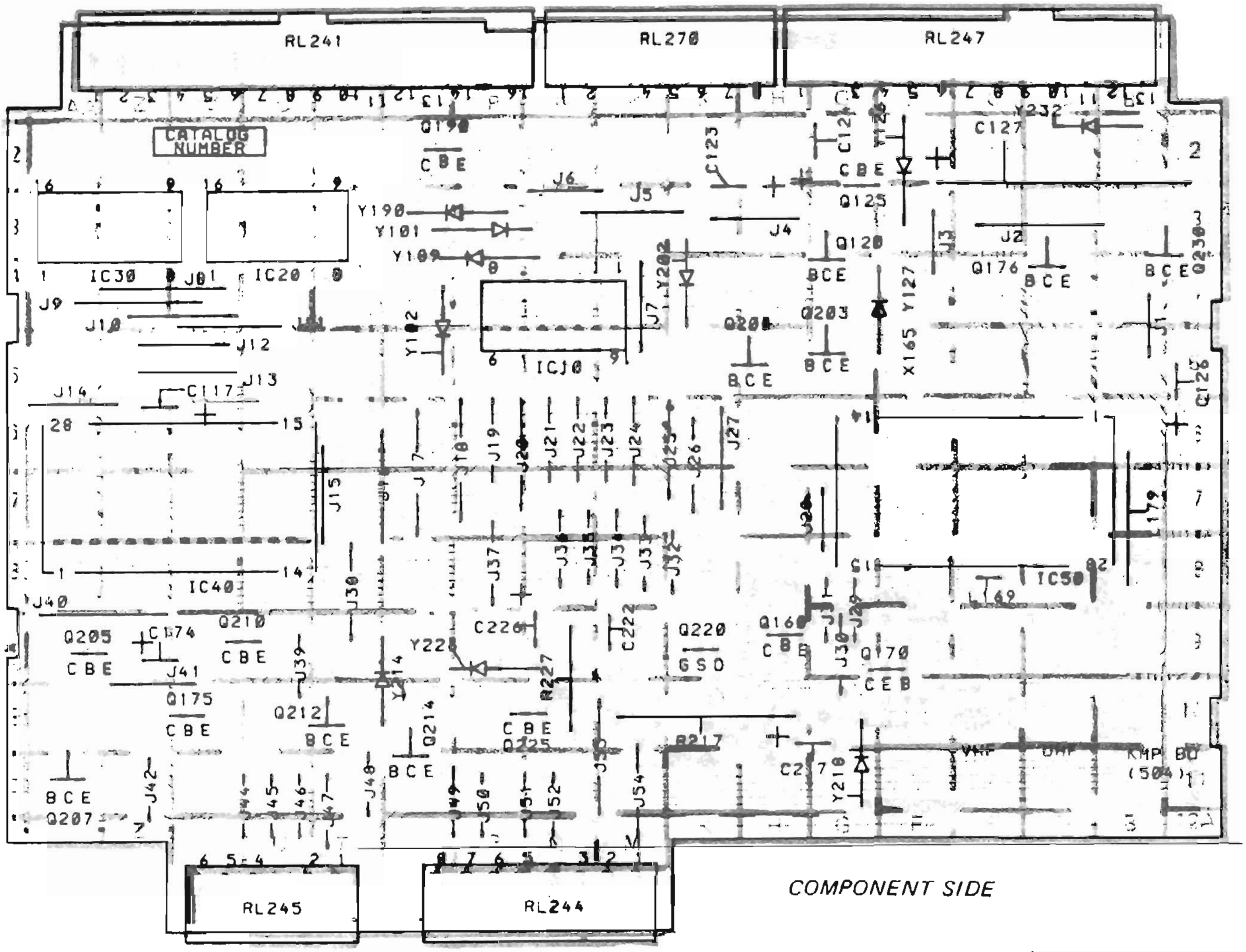
CRYSTAL		
X165	4-5	F

TEST PTS.	GRID LOCATION	
TP.1	8	D
TP.2	6	D
TP.3	6	D-E
TP.4	5	E
TP.5	6	E
TP.6	5	E
TP.7	6	F
TP.8	8	F
TP.9	10	G
TP.10	4	E
TP.11	9	H

CAPACITORS		GRID LOCATION	
C102	.022	3-4	P
C104	.022	3	M
C106	.022	3	M
C108	.022	3	M
C110	.022	3	P
C112	.022	2-3	P
C117	47uf 16V	8	Z
C119	100pf	6-7	V
C123	4.7uf 35V	2-3	H-K
C124	.68uf 16V AL	2	G
C126	47uf 16V	5	A
C127	1000uf 25V	2-3	A-B-D-E-F
C128	.01	2	E
C133	.022	3-4	K
C164	100pf	8-9	H
C165	33pf	4-5	F
C166	24pf	4-5	E
C167	3pf	9-10	D
C168	.001	8-9	D
C169	.001	9-10	E
C170	1000pf	8-9	F
C171	.01	9	B-D
C172	.001	10	F
C174	4.7uf 35V	9	Z
C176	.01	4-5	A
C179	.01	6-7	F-G
C181	.001	7	D
C182	.001	7	D
C183	.01	7	D
C203	.022	5-8	H
C206	.01	9-10	AA
C207	.022	10	AA
C208	.022	10	Z
C210	.01	9-10	U
C213	.022	10	P
C215	.022	10	P
C217	10uf 35V	10-11	G-H
C221	.047	10-11	H-K
C222	.1	9	M
C223	.047	9	P
C226	10uf 50V	9	N

DIODES		GRID LOCATION	
Y127	9.1V Zener	4-5	F-G
Y128	Silicon	2-3	F
Y202	6.2V Zener	3-4	K
Y214	Signal	9-10	S-T
Y218	5.1V Zener	10-11	G
Y228	30V Zener	9	N-P-S
Y232	6.2V Zener	2	B-D

KMP91 TUNER CONTROL MODULE (EP93X312) COMPONENT LOCATION



COMPONENT SIDE

RED COLOR = GRID FOR COMPONENT LOCATION

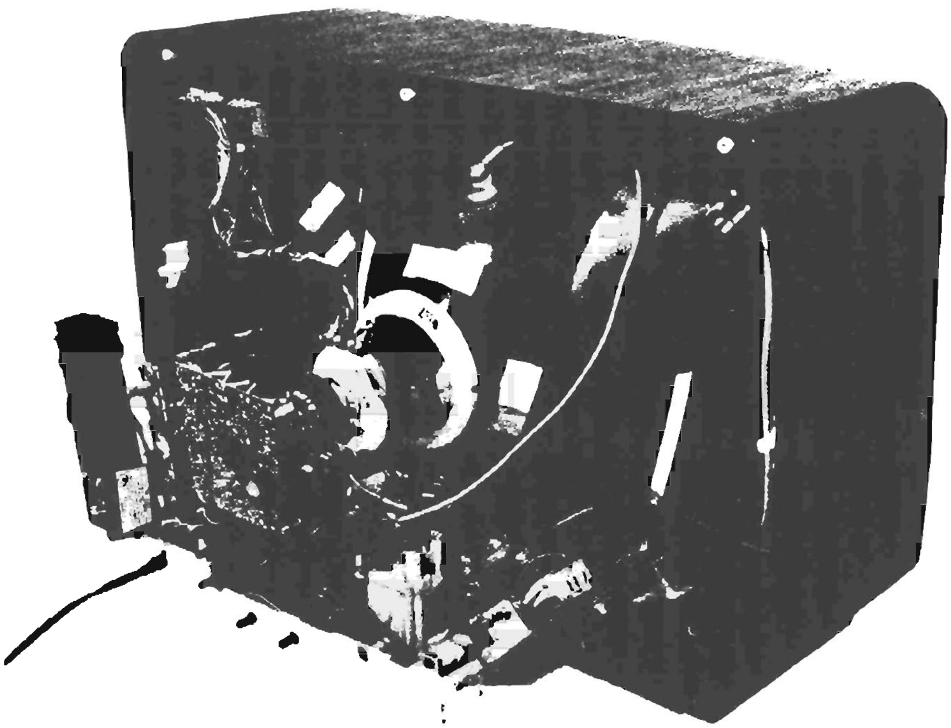
RESISTORS		GRID LOCATION	
R101	10K	2	N
R102	47K	2	N
R102	10K	2	K
R104	47K	2	K
R105	10K	2	M
R106	47K	2	M
R107	10K	2	M
R108	47K	2	M
R109	10K	2	N
R110	47K	2	N
R111	10K	2	P
R112	47K	2	P
R113	10K	2	P
R115	22K	4-5	S
R116	22K	3-4	S-T
R119	43K	5-6	G
R120	100K	3-4	K
R121	47K	3	H
R122	100K	2	H
R123	270K	2	H
R124	470K	2	H
R125	47K	2	K
R126	680	2-3	E
R127	680	2	E
R128	10K	5	Z
R129	10K	5	AA
R130	22K	5	AA
R131	22K	4-5	AA
R132	10K	4	H
R133	47K	4	H-K
R135	10K	5	V
R136	10K	5-6	U
R137	10K	6	U
R138	10K	5	T
R139	470	2	AA
R140	470	2	AA
R141	470	2	Z
R142	470	2	Z
R143	470	2	Z
R144	470	2	Z
R145	470	2	V
R146	470	2	V
R147	470	2	U
R148	470	2	U
R149	470	2	U
R150	470	2	U
R151	470	2	T
R152	470	2	T
R153	3.3K	7-8	K
R154	10K	8	H
R155	10K	8	K
R156	22K	8-9	H-K
R157	10K	6-7	H
R158	22K	6	H
R159	10K	6-7	H
R160	22K	8	H
R161	10K	7	H
R162	22K	6-7	K
R163	47K	9	H
R164	10K	7	Z
R165	33K	9-10	K
R167	100	9-10	B
R169	51	10	E
R170	91	9	F
R171	15K	10	F
R172	15K	10	F
R173	4.7K	9-10	F
R174	10K	10	Z
R175	10K	9	Z
R176	270K	10-11	U-V
R177	47K	4-5	D
R178	100K	4-5	B
R179	22K	2-3	D
R199	680	5	K
R200	10K	5	K
R201	1K	5	K
R202	47K	4-6	G
R203	5.6K	5-6	G
R204	22K	7	Z
R205	47K	8-9	AA
R206	5.6K	10	AA
R207	100K	11	Z
R208	100K	10	AA
R209	22K	8-9	AA
R210	47K	9	V
R211	3.3K	8-9	P-S
R212	100K	9	T
R213	15K	9-10	T
R214	15K	9-10	T
R215	47K	10	S
R217	33 ohm 1W	10	H-K-M
R220	5.6K	10	H
R221	2.2K	10	K
R222	33K	9	M
R223	470	10	M
R224	6.8K	9-10	M
R225	2.2K	9-10	N
R226	4.7K	9-10	P
R227	1.8K ½W	9-10	N
R230	10K	2-3	B
R231	1L	2-3	B
R232	680	2-3	B

TRANSISTORS		GRID LOCATION	
Q120	PNP	4	G
Q125	NPN	2-3	G
Q160	NPN	9	H
Q170	NPN	9-10	F-G
Q175	NPN	10	V-Z
Q176	PNP	4	D
Q200	PNP	5	H-K
Q203	PNP	5	G
Q205	NPN	9	AA
Q207	PNP	11	AA
Q210	NPN	9	U-V
Q212	PNP	10	T-U
Q214	PNP	11	S
Q220	FET	9	K
Q225	NPN	N-P	
Q230	PNP	3-4	A-B

JUMPERS	GRID LOCATION	
J1	4-5	B
J2	3	B-D-E
J3	3-4	F
J4	3	H-K
J5	3	K-M-N
J6	3	M-N
J7	4-5	M
J8	4	V-Z-AA
J9	4	V
J10	4	V-Z
J11	4	U-V
J12	6	V-Z
J13	5	V-Z
J14	6	Z-AA
J15	6-7-8	T
J19	6-7	P
J20	6-7	P
J21	6-7	N
J22	6-7	N
J23	6-7	M
J24	6-7	M
J25	6-7	K-M
J26	6-7	K-M
J27	6-7	K-M
J28	7-8	G
J29	8-9	G
J30	9-10	G
J31	8-9	G
J32	7-8	K
J33	7-8	M
J34	7-8	M
J35	7-8	N
J36	7-8	N
J39	9-10	U
J40	9	Z-AA
J41	1	V-Z
J42	11	Z
J44	11-12	V
J45	11-12	U
J48	11	T
J49	11-12	S
J50	11-12	P
J51	11-12	P
J52	11-12	N
J53	10-11	M-N
J54	10-11-12	M

TROUBLESHOOTING GUIDE

COLOR TELEVISION
PC CHASSIS



INFORMATION FOR QUICK ACCURATE REPAIRS

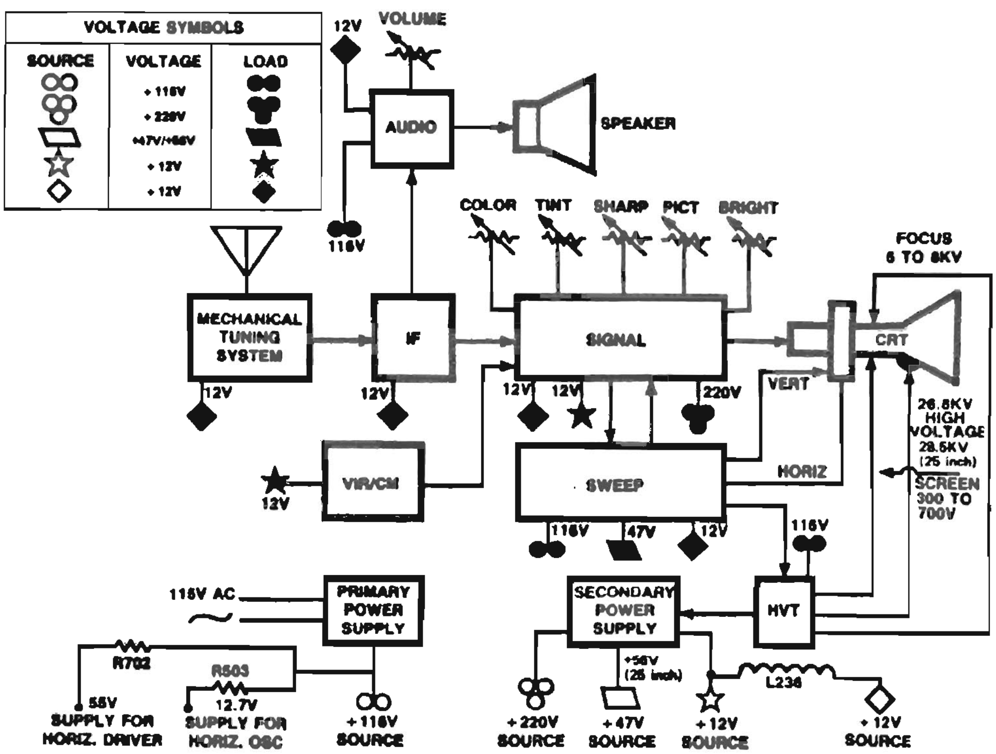
HOW TO USE THE FLOWCHARTS

Always use an isolation transformer when working on this receiver. Preset the Brightness, Picture and Color controls to the full clockwise position. Set the tint and volume controls to midrange. Locate the symptom of the receiver in the index above and turn to the flowchart indicated.

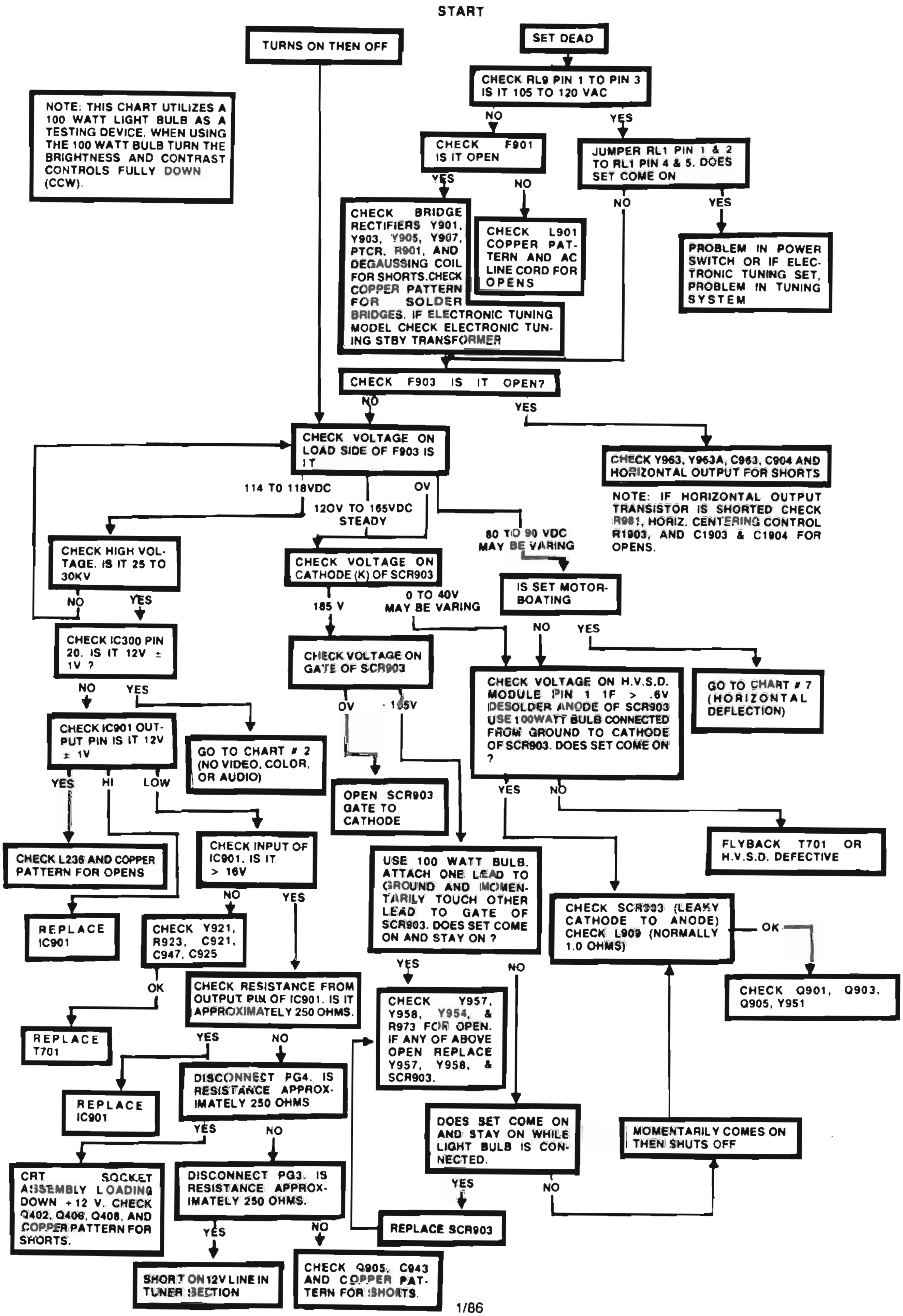
Begin at the top of the page and follow the arrows down the chart. Do not skip steps. The location of most components is shown on the circuit board diagram on the facing page. Once you are familiar with the procedure, the abbreviated flowchart can be used. This shows the steps explained in the flowchart on a partial schematic of the circuit.

In addition to the troubleshooting charts, there is also a symptom/cure section at the back of this booklet. Some common symptoms are listed along with the component number and part number likely to correct the symptom.

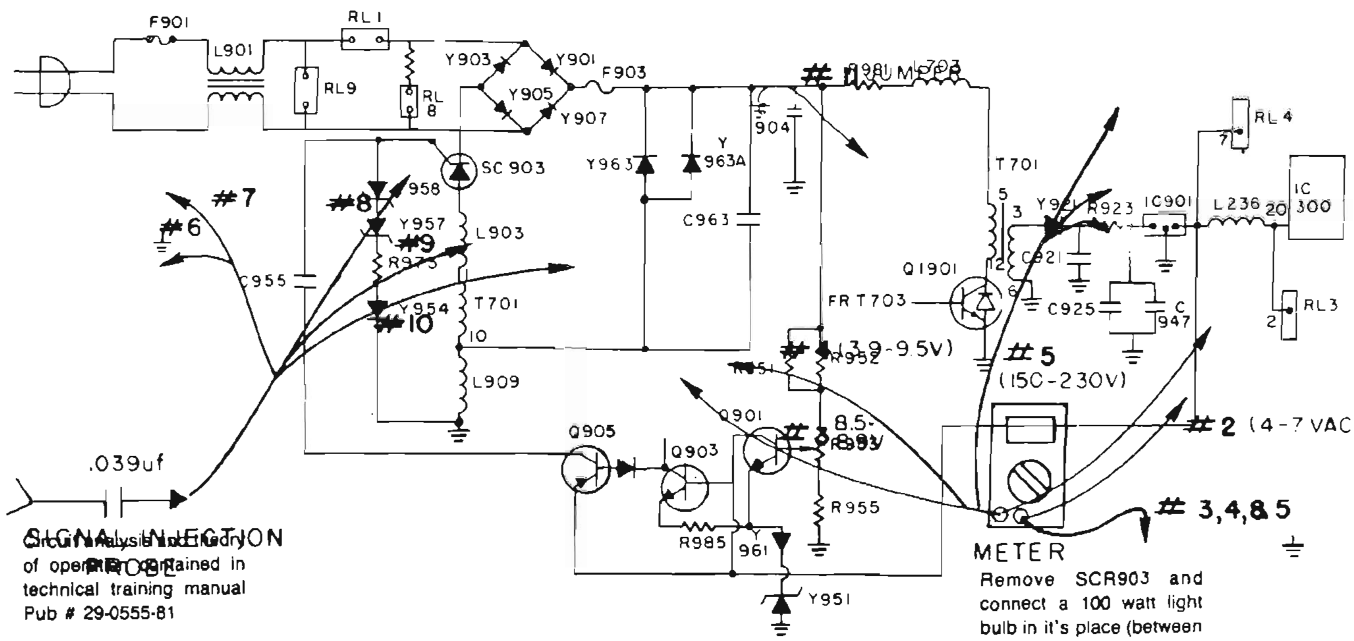
BLOCK DIAGRAM OF THE PC CHASSIS



TROUBLESHOOTING CHART INDEX


START
TURNS ON THEN OFF
SET DEAD
CHECK RL9 PIN 1 TO PIN 3 IS IT 105 TO 120 VAC
NOTE: THIS CHART UTILIZES A 100 WATT LIGHT BULB AS A TESTING DEVICE. WHEN USING THE 100 WATT BULB TURN THE BRIGHTNESS AND CONTRAST CONTROLS FULLY DOWN (CCW).
NO
YES
CHECK F901 IS IT OPEN
JUMPER RL1 PIN 1 & 2 TO RL1 PIN 4 & 5. DOES SET COME ON
YES
NO
NO
YES
CHECK BRIDGE RECTIFIERS Y901, Y903, Y905, Y907, PTCR, R901, AND DEGAUSSING COIL FOR SHORTS.CHECK COPPER PATTERN FOR SOLDER BRIDGES. IF ELECTRONIC TUNING MODEL CHECK ELECTRONIC TUNING STBY TRANSFORMER
CHECK L901 COPPER PATTERN AND AC LINE CORD FOR OPENS
PROBLEM IN POWER SWITCH OR IF ELECTRONIC TUNING SET, PROBLEM IN TUNING SYSTEM
CHECK F903 IS IT OPEN?
NO
YES
CHECK VOLTAGE ON LOAD SIDE OF F903 IS IT
CHECK Y963, Y963A, C963, C904 AND HORIZONTAL OUTPUT FOR SHORTS
NOTE: IF HORIZONTAL OUTPUT TRANSISTOR IS SHORTED CHECK R981, HORIZ. CENTERING CONTROL R1903, AND C1903 & C1904 FOR OPENS.
114 TO 118VDC
0V
120V TO 165VDC STEADY
80 TO 90 VDC MAY BE VARING
CHECK HIGH VOLTAGE. IS IT 25 TO 30KV
CHECK VOLTAGE ON CATHODE (K) OF SCR903
IS SET MOTORBOATING
NO
YES
185 V
0 TO 40V MAY BE VARING
NO
YES
CHECK IC300 PIN 20. IS IT 12V ± 1V ?
CHECK VOLTAGE ON GATE OF SCR903
CHECK VOLTAGE ON H.V.S.D. MODULE PIN 1 1F > .6V DESOLDER ANODE OF SCR903 USE 100WATT BULB CONNECTED FROM GROUND TO CATHODE OF SCR903. DOES SET COME ON ?
GO TO CHART # 7 (HORIZONTAL DEFLECTION)
NO
YES
0V
185V
CHECK IC901 OUTPUT PIN IS IT 12V ± 1V
GO TO CHART # 2 (NO VIDEO, COLOR, OR AUDIO)
OPEN SCR903 GATE TO CATHODE
YES
NO
YES
HI
LOW
FLYBACK T701 OR H.V.S.D. DEFECTIVE
CHECK L236 AND COPPER PATTERN FOR OPENS
CHECK INPUT OF IC901. IS IT > 16V
USE 100 WATT BULB. ATTACH ONE LEAD TO GROUND AND MOMENTARILY TOUCH OTHER LEAD TO GATE OF SCR903. DOES SET COME ON AND STAY ON ?
CHECK SCR903 (LEAKY CATHODE TO ANODE) CHECK L909 (NORMALLY 1.0 OHMS)
OK
NO
YES
REPLACE IC901
CHECK Y921, R923, C921, C947, C925
CHECK Q901, Q903, Q905, Y951
YES
NO
OK
CHECK RESISTANCE FROM OUTPUT PIN OF IC901. IS IT APPROXIMATELY 250 OHMS.
CHECK Y957, Y958, Y954, & R973 FOR OPEN. IF ANY OF ABOVE OPEN REPLACE Y957, Y958, & SCR903.
REPLACE T701
YES
NO
DISCONNECT PG4. IS RESISTANCE APPROXIMATELY 250 OHMS
REPLACE IC901
DOES SET COME ON AND STAY ON WHILE LIGHT BULB IS CONNECTED.
MOMENTARILY COMES ON THEN SHUTS OFF
YES
NO
CRT SOCKET ASSEMBLY LOADING DOWN +12 V. CHECK Q402, Q406, Q408, AND COPPER PATTERN FOR SHORTS.
DISCONNECT PG3. IS RESISTANCE APPROXIMATELY 250 OHMS.
YES
NO
REPLACE SCR903
YES
NO
SHORT ON 12V LINE IN TUNER SECTION
CHECK Q905, C943 AND COPPER PATTERN FOR SHORTS.

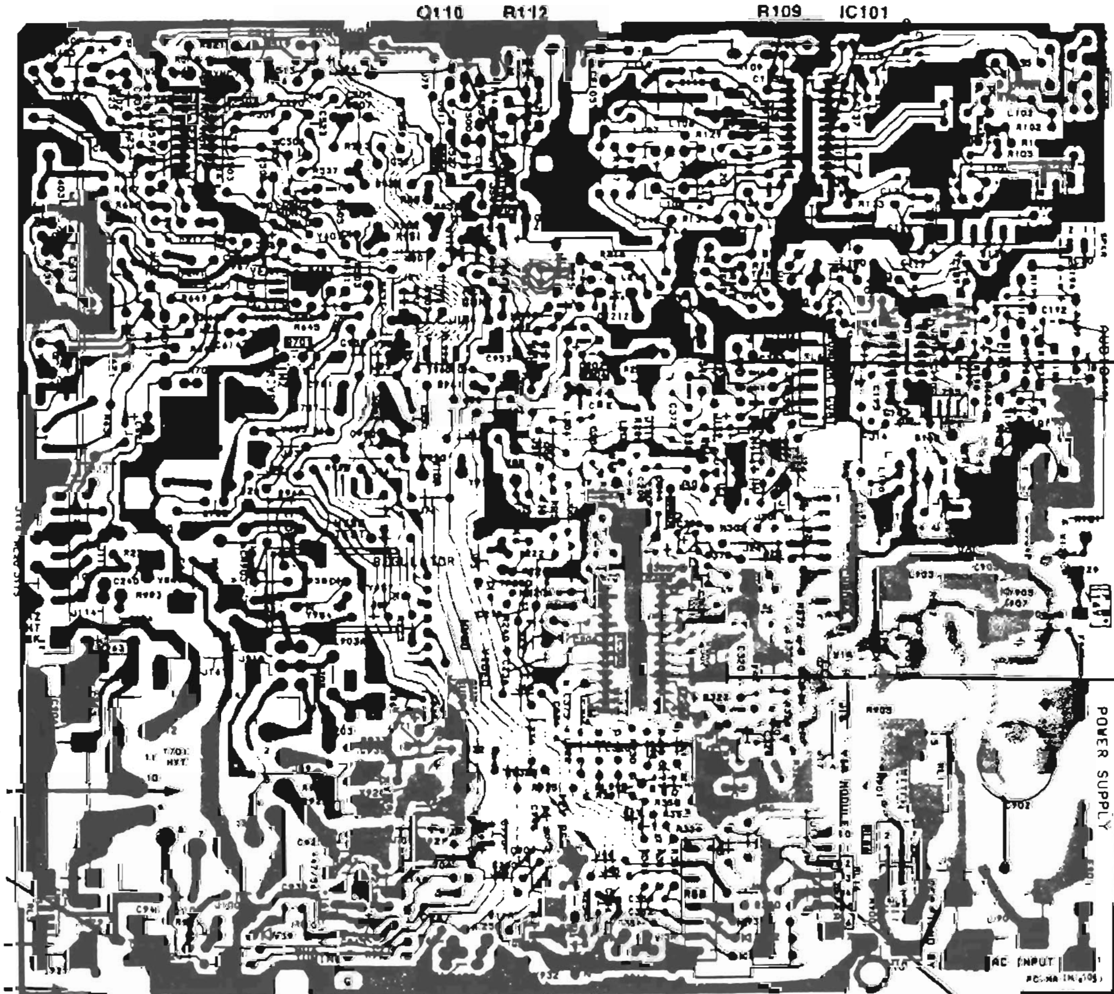
ABBREVIATED FLOW CHART



Circuit analysis and theory of operation contained in technical training manual Pub # 29-0555-81

Remove SCR903 and connect a 100 watt light bulb in it's place (between cathode and anode)

COMPONENT LOCATION (FOIL SIDE)



PC CHASSIS

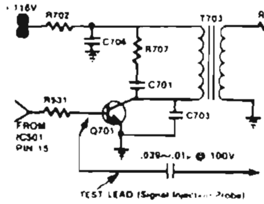


FIGURE 1

TEST LEAD IS A JUMPER WIRE WITH A .039 to .01μf 100 WVDC CAPACITOR IN SERIES.

ATTACH ONE END TO BASE OF Q701. THE OTHER END WILL BE YOUR SIGNAL INJECTION PROBE.

WITH THIS CHART YOU CAN TROUBLESHOOT A NO VIDEO/NO COLOR - AUDIO OK PROBLEM. UTILIZING THE SETS HORIZONTAL DRIVE SIGNAL AS A SIGNAL SOURCE TO DRIVE VARIOUS VIDEO STAGES. TO SET UP FOR SIGNAL INJECTION. PREPARE A PROBE AS SHOWN IN FIGURE #1. FIGURE #2 SHOWS THE PATTERN THAT WILL BE DISPLAYED ON THE CRT IF THE STAGE UNDER TEST IS CAPABLE OF PASSING A SIGNAL.

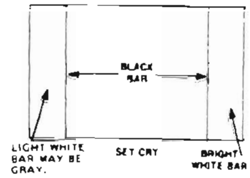
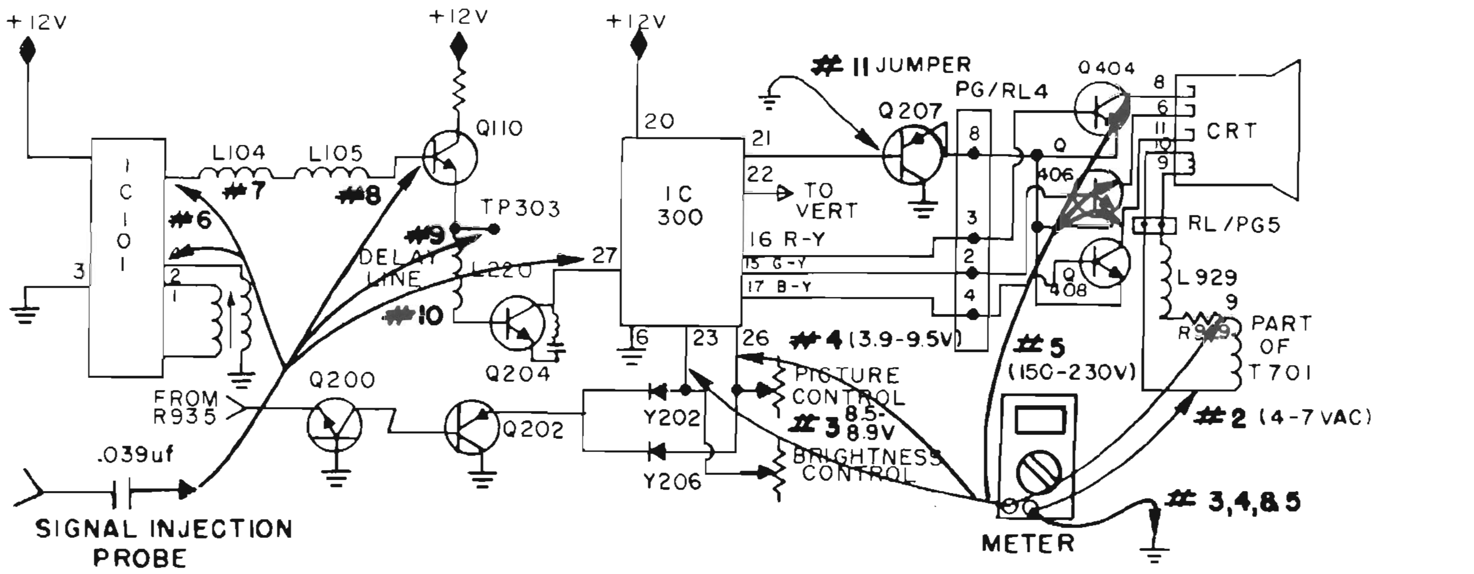


FIGURE 2

- **ARE CRT FILAMENTS LIT**
  - NO → **CHECK FILAMENT VOLTAGE AT CRT SOCKET PINS 9 TO 10. IS IT 4.5 TO 7VAC. NOTE: VOLTAGE WILL VARY DEPENDANT ON TYPE OF METER USED.**
    - NO → CHECK SOLDER CONNECTION ON FLYBACK PINS 7 & 9, L929, R929. IF OK REPLACE T701.
    - YES → OHM CRT FILAMENT IF OK CHANGE SOCKET.
  - YES → **USE SIGNAL INJECTION PROBE TO INJECT SIGNAL INTO BASE OF Q110. IS TEST PATTERN (FIG. 2) PRESENT.**
    - YES → **INJECT SIGNAL ON PIN 11 OF IC101. IS TEST PATTERN (FIG. 2) PRESENT.**
      - YES → **INJECT SIGNAL ON PIN 4 OF IC101. IS TEST PATTERN (FIG. 2) PRESENT.**
        - YES → CHECK FOR OPEN COPPER PATTERN AROUND IC101. IF OK REPLACE IC101.
        - NO → REPLACE IC101
      - NO → CHECK L105, R109, L104, R112 AND COPPER PATTERN FOR OPENS.
    - NO → **INJECT SIGNAL AT TP303. IS TEST PATTERN (FIG. 2) present.**
      - YES → CHECK Q110 AND COPPER PATTERN FOR OPENS.
      - NO → **INJECT SIGNAL ON PIN 27 OF IC300. IS TEST PATTERN (FIG. 2) PRESENT.**
        - YES → GO TO CHART # 4
        - NO → **CHECK VOLTAGE ON IC300 PIN 22. IS IT GREATER THAN 1VDC.**
          - YES → FAILURE IN VERTICAL CIRCUIT. GO TO CHART #8.
          - NO → **CHECK VOLTAGE ON PIN 23 OF IC300. VARY BRITENESS CONTROL. DOES VOLTAGE VARY BETWEEN 8.5 AND 8.9 VOLTS.**
            - 8.2 TO 8.5V → Q202 OR Q200 LEAKY.
            - 8.5 TO 8.9V → **CHECK VOLTAGE ON PIN 26 OF IC300. DOES VOLTAGE VARY BETWEEN 3.9 TO 9.5V AS YOU VARY THE PICTURE CONTROL.**
              - NO → CHECK Q202 Q200 & WIRING TO PICTURE CONTROL
              - YES → **USE JUMPER WIRE TO MOMENTARILY GROUND THE BASE OF Q207 DOES SCREEN BECOME VERY BRITE? NOTE: THIS PROCEDURE MAY CAUSE A HIGH VOTLAGE SHUT DOWN DUE TO EXCESSIVE BEAM CURRENT.**
                - YES → CHECK R230 AND COPPER PATTERN BETWEEN IC300 PIN 21, R230 AND Q207. IF OK REPLACE IC300.
                - NO → **MOMENTARILY GROUND PIN 8 OF RL4 DOES SCREEN BECOME VERY BRITE.**
                  - YES → CHECK Q207, R270 AND COPPER PATTERN BETWEEN Q207 AND RL4 PIN 8 FOR OPENS.
                  - NO → **CHECK CRT CATHODE VOLTAGES ON PIN 6, 8 & 11 IS IT BETWEEN +150 TO +230V.**
                    - YES → CHECK CRT
                    - NO → CHECK Q404, Q406, Q408 AND ASSOCIATE CIRCUIT FOR OPENS.

ABBREVIATED FLOW CHART



Circuit analysis and theory of operation contained in technical training manual Pub # 29-0555-81

COMPONENT LOCATION (FOIL SIDE)

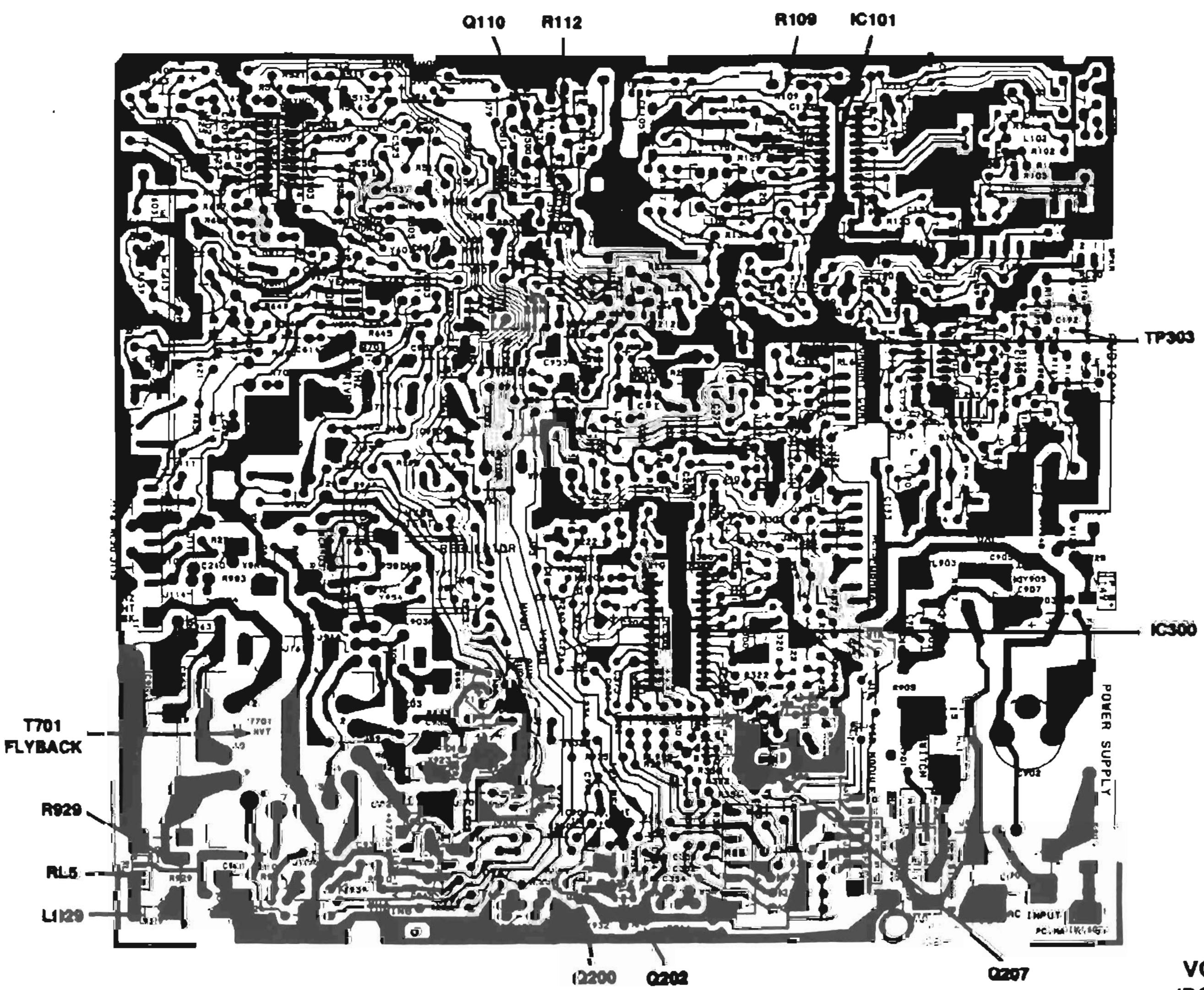
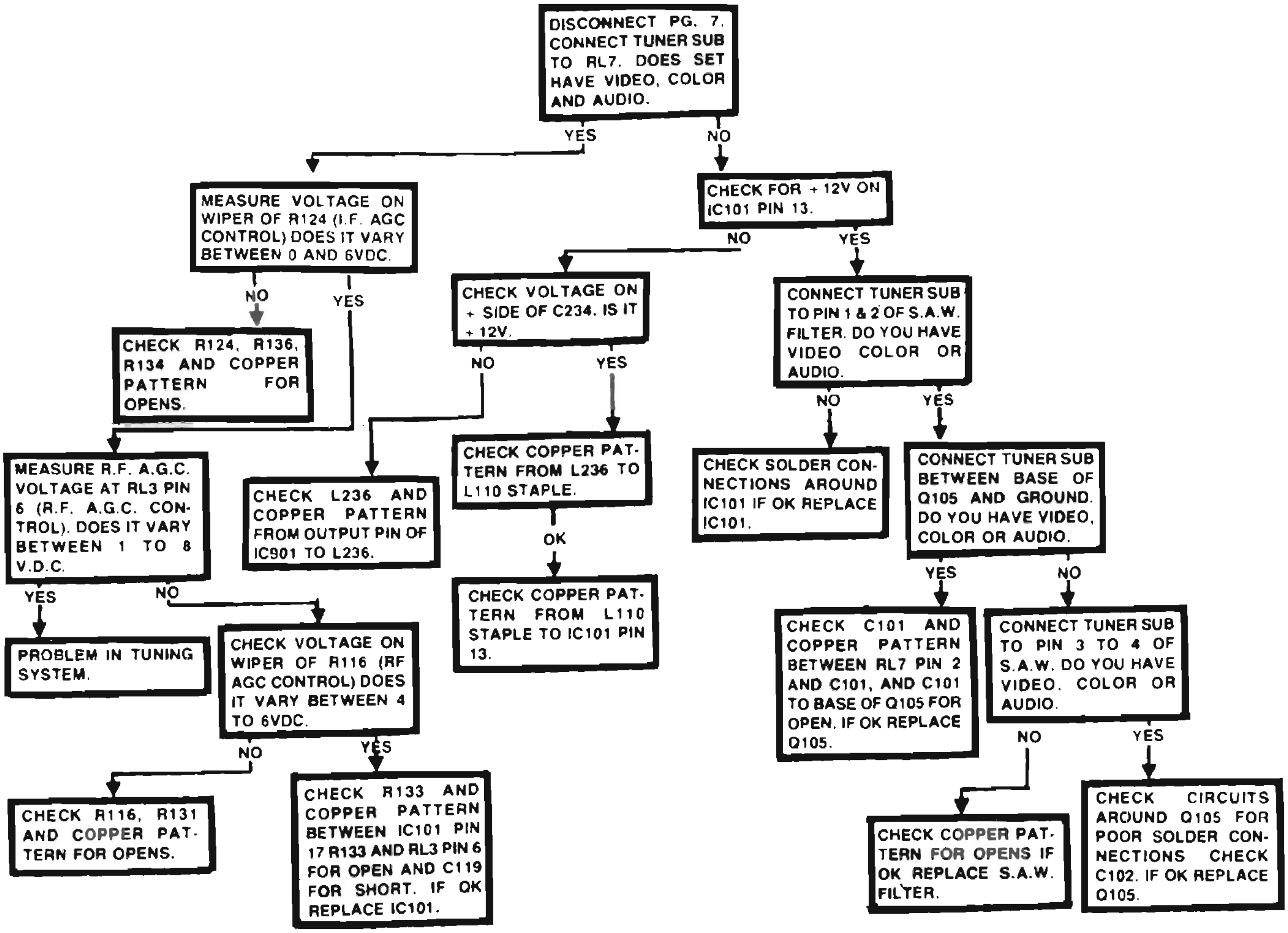
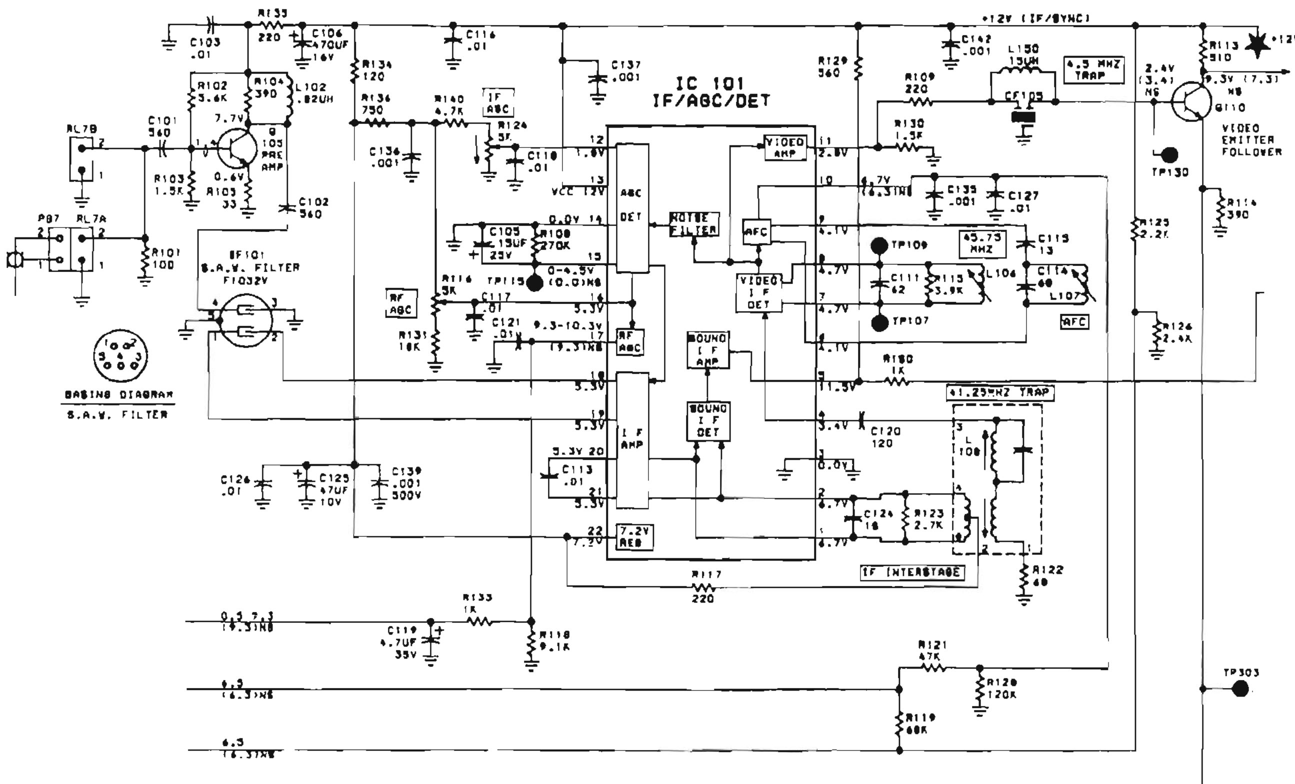
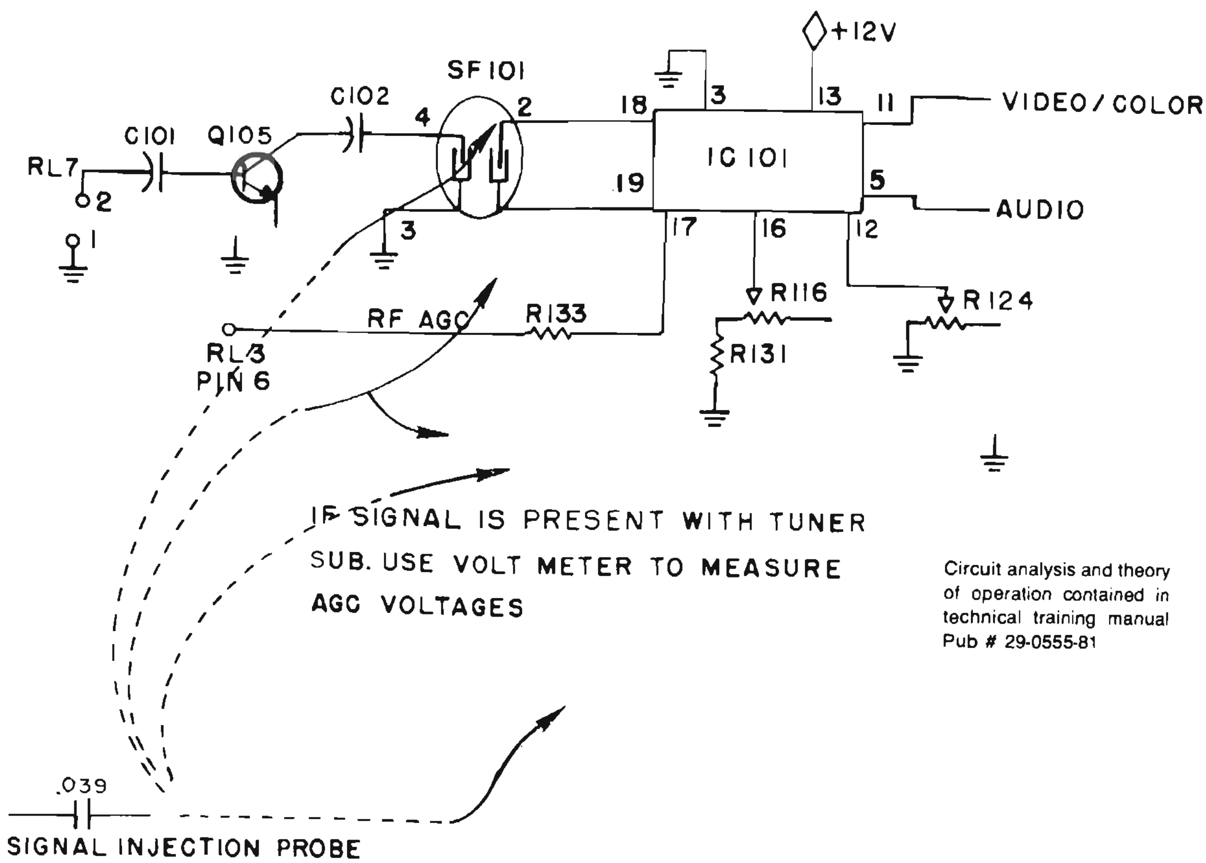


CHART #3 NO VIDEO, NO COLOR, NO AUDIO (SNOWY PICTURE)



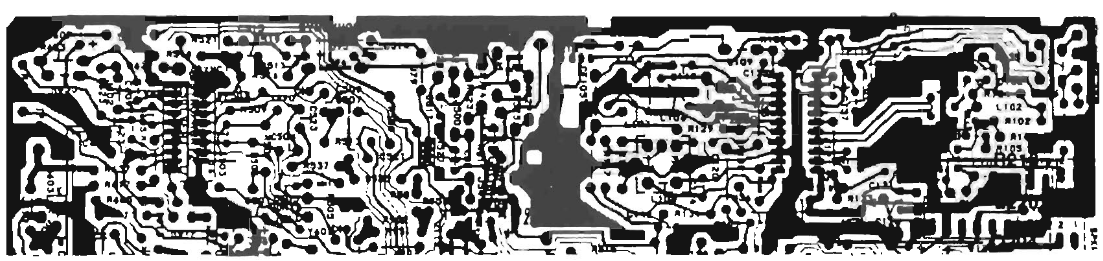


ABBREVIATED FLOW CHART



Circuit analysis and theory of operation contained in technical training manual Pub # 29-0555-81

COMPONENT LOCATION (FOIL SIDE)



C216

IC300

CHART #4 NO VIDEO, COLOR AND AUDIO OK

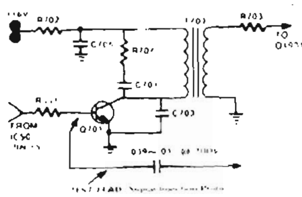


FIGURE 1

This Chart utilizes a method of signal injection. Utilizing the sets horizontal drive signal as a signal source to drive various video stages to determine if they are capable of passing a signal. Set-up for signal injection probe is shown in Figure #1. Figure #2 shows the sets CRT display if the stage under test is capable of passing a signal.

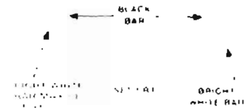


FIGURE 2

Test Lead is a Jumper wire with a .039 to .01 μf 100 WVDC capacitor in series.

Attach one end to base of Q701. The other end will be your signal injection probe.

START — Turn color control fully CCW. Use signal injection probe and inject signal to pin 27 of IC300. Is Test Pattern (Fig. 2) visable on screen?

- NO → GO TO TROUBLESHOOTING FLOW CHART 3 (NO VIDEO, NO COLOR, AUDIO OK)
- YES, PC A, B, OR C → Inject signal at base of Q206. Is Test Pattern (Fig. 2) present?
  - NO → Inject signal at base of Q204 (below)
  - YES → Inject signal at input of delay line (below)
- YES, PC-D & LATER → Inject signal at base of Q204. Is Test Pattern (Fig. 2) present?
  - NO → CHECK Q204, C216, R209 AND COPPER PATTERN FOR OPENS.
  - YES, PC-D & LATER → Inject signal at input of delay line (below)
  - YES, PC-A, B OR C → Check Q206 for opens, also check R202, R205 & R208 and copper pattern for open or shorts

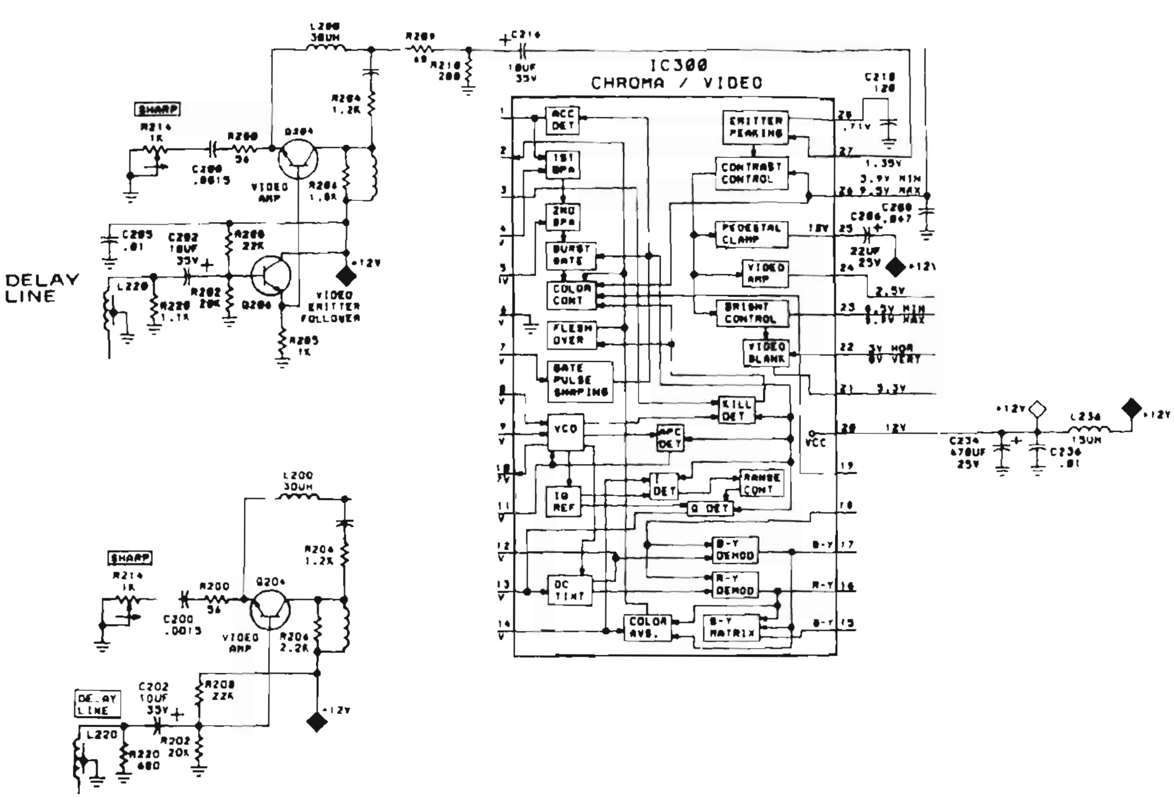
Inject signal at input of delay line L220. (Junction L220 & R218). Is Test Pattern (Fig. 2) present?

- YES → R216 or R218 open, or C212 or L212 (CF212 on D & later) shorted or open copper pattern
- NO → Delay Line (L220) or C202 open or open copper pattern

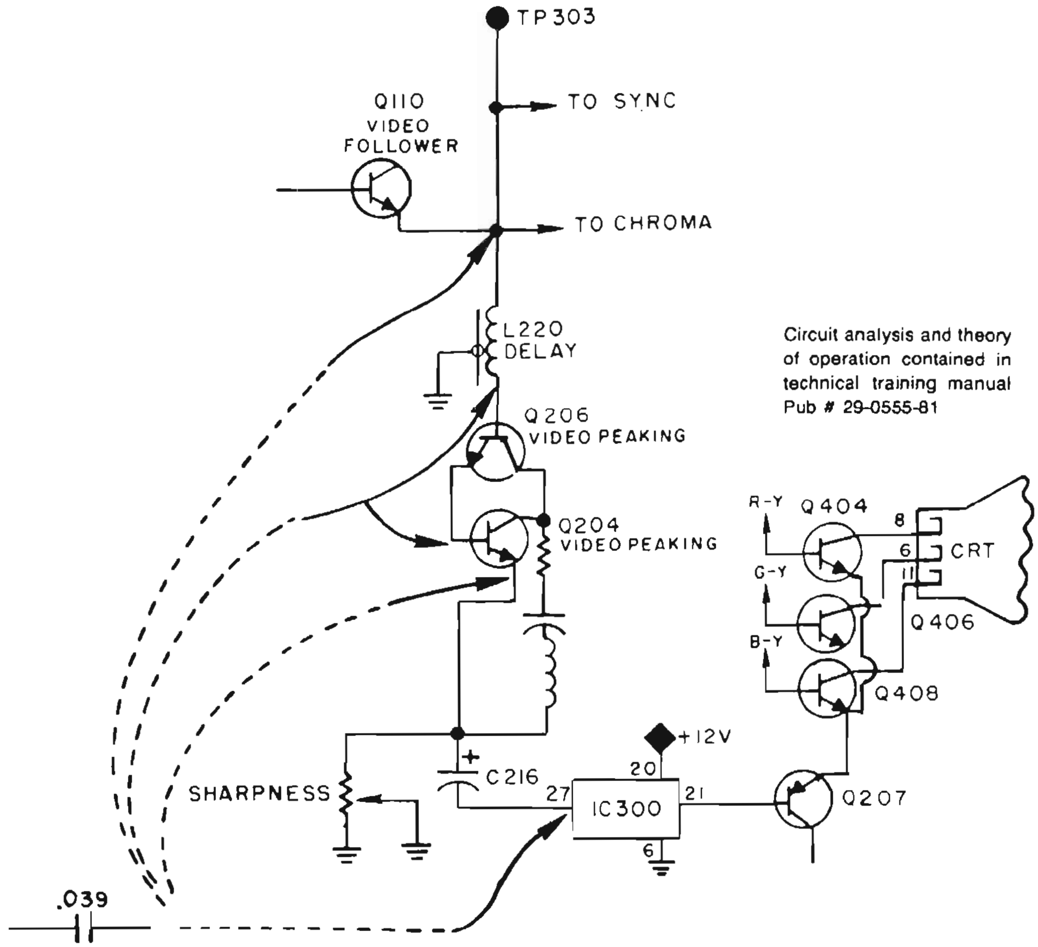
NOTE: Q204 & Q206 are used for video peaking. A short in either Q204 or Q206 may cause any of the following symptoms:

1. Weak Video
2. Lack of Detail
3. No Video
4. Smeared Video
5. Video Ringing (Ghosts)

Simplified Flow Chart indicating signal inject points if Test Pattern is present when signal is injected at #1 go to #2 set. Till Test Pattern is lost. Check for opens or shorts at that point.



ABBREVIATED FLOW CHART



Circuit analysis and theory of operation contained in technical training manual Pub # 29-0555-81

COMPONENT LOCATION (FOIL SIDE)

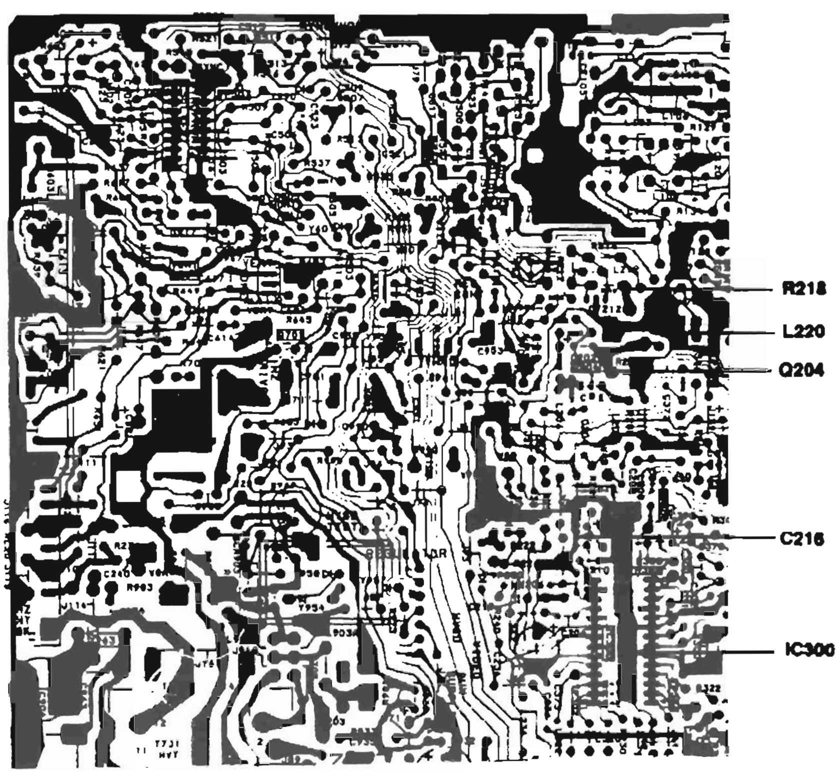


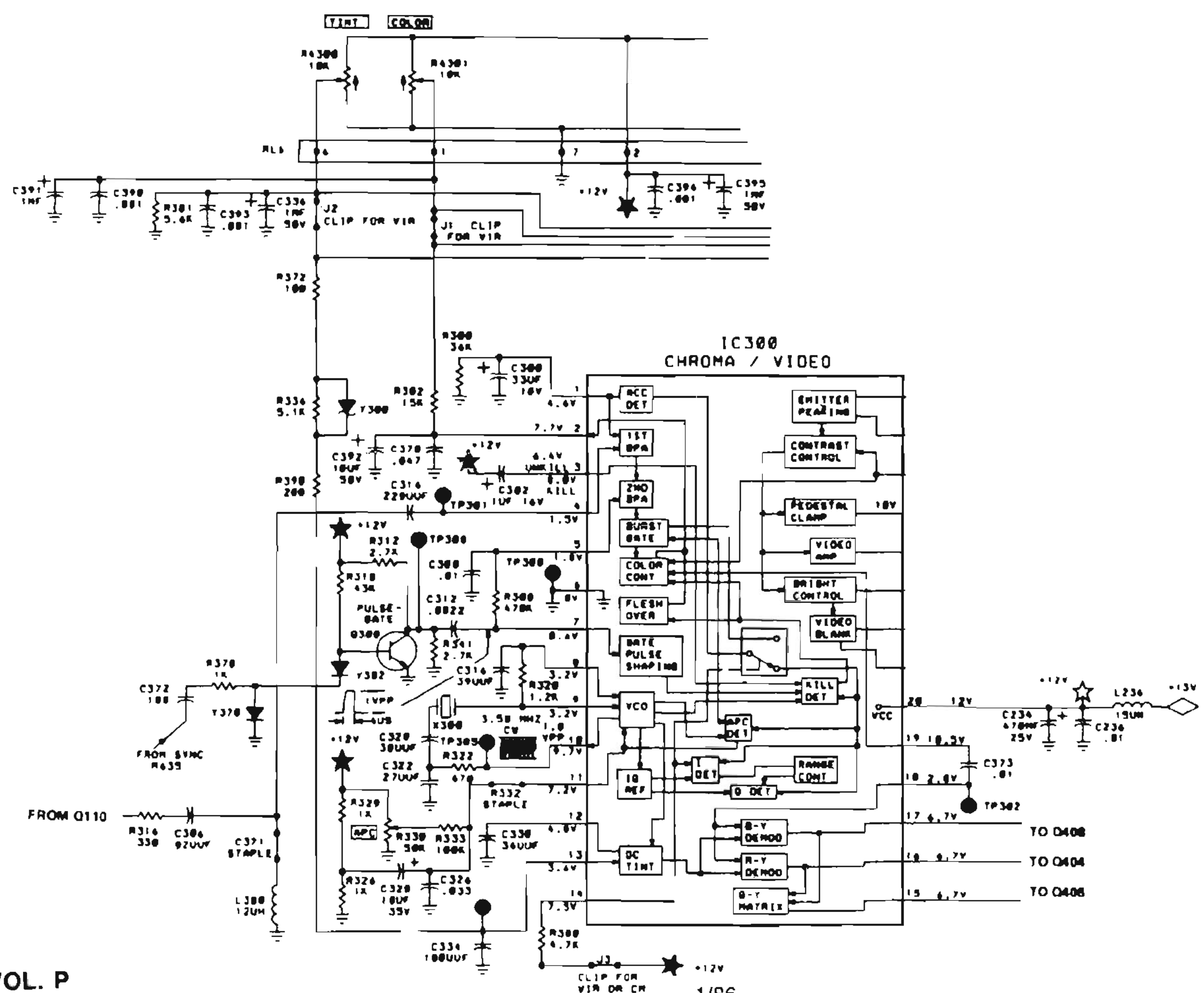
CHART #5 NO COLOR, VIDEO AND AUDIO OK

PC CHASSIS

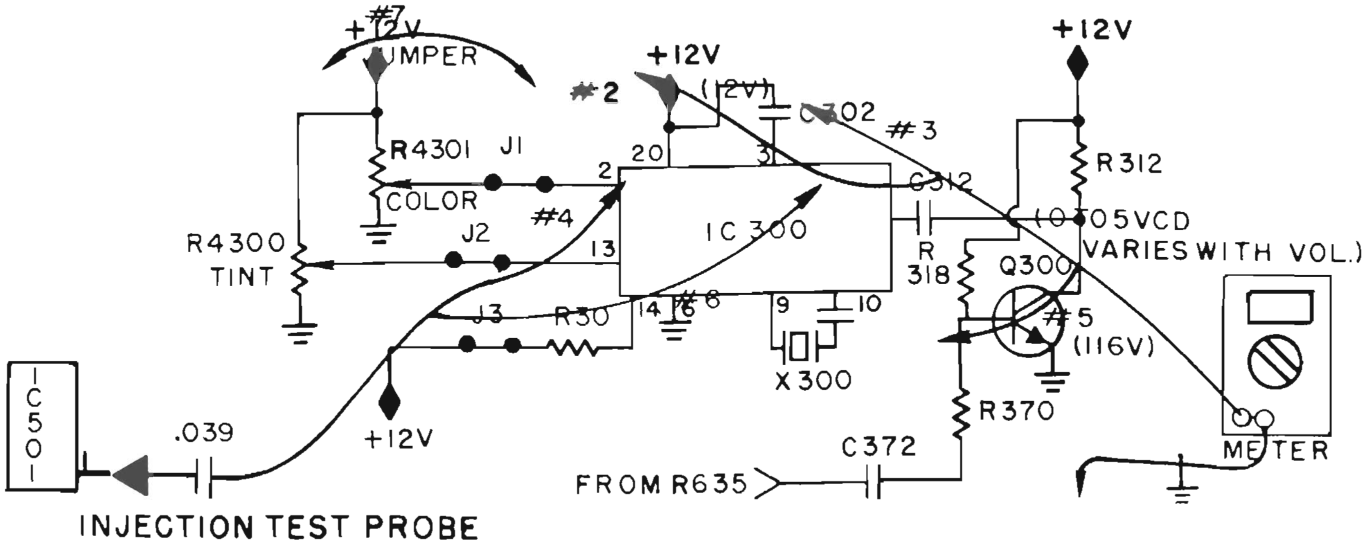
DOES SET HAVE VIR OR COLOR MONITOR?

- YES → TURN THE VIR OR COLOR MONITOR SWITCH OFF. CAN NORMAL COLOR BE OBTAINED?
  - YES → TURN VIR OR COLOR MONITOR SWITCH BACK ON. TRY VARIOUS CHANNELS. IF SET HAS VIR TRY ADJUSTING PRETERANCE CONTROLS. CAN NORMAL COLOR BE OBTAINED ON ANY CHANNEL?
    - YES → ADJUST R.F. AND I.F. AGC.
    - NO → ADJUST R.F. AND I.F. AGC. IF NORMAL COLOR CAN NOT BE OBTAINED REPLACE VIR OR COLOR MONITOR.*
  - NO → REMOVE VIR AND OR COLOR MONITOR MODULE. USE CLIP LEADS TO RESTORE JUMPER WIRE CONNECTIONS J1, J2, AND J3. CAN NORMAL COLOR BE OBTAINED?
    - YES → REPLACE VIR OR COLOR MONITOR* MODULE.
    - NO → APPLY HEAT TO X300. DOES COLOR IMPROVE.
- NO → APPLY HEAT TO X300. DOES COLOR IMPROVE.
  - YES → REPLACE X300
  - NO → CHECK A.C. VOLTAGE ON PIN 7 OF IC300. IS IT AT LEAST .6VAC?
    - NO → CHECK A.C. VOLTAGE ON BASE OF Q300. IS IT AT LEAST .25VAC?
      - NO → CHECK R372, R370 AND COPPER PATTERNS FOR OPENS.
      - YES → CHECK Q300, R312 & R318 FOR OPENS.
    - YES → CHECK D.C. VOLTAGE ON PIN 2 OF IC300. DOES IT VARY BETWEEN 4 TO 10VDC WHEN YOU VARY THE COLOR CONTROL?
      - NO → CHECK R4301, R302, AND J1 FOR OPENS.
      - YES → CHECK VOLTAGE ON PIN 3 OF IC300. IS IT 6.4VDC?
        - NO → CHECK C302 FOR OPEN. IF OK REPLACE IC300
        - YES → REPLACE C300

*NOTE: ON LATE PRODUCTION SET COLOR MONITOR IS INCORPORATED INTO IC300 AND IS NOT A MODULE.

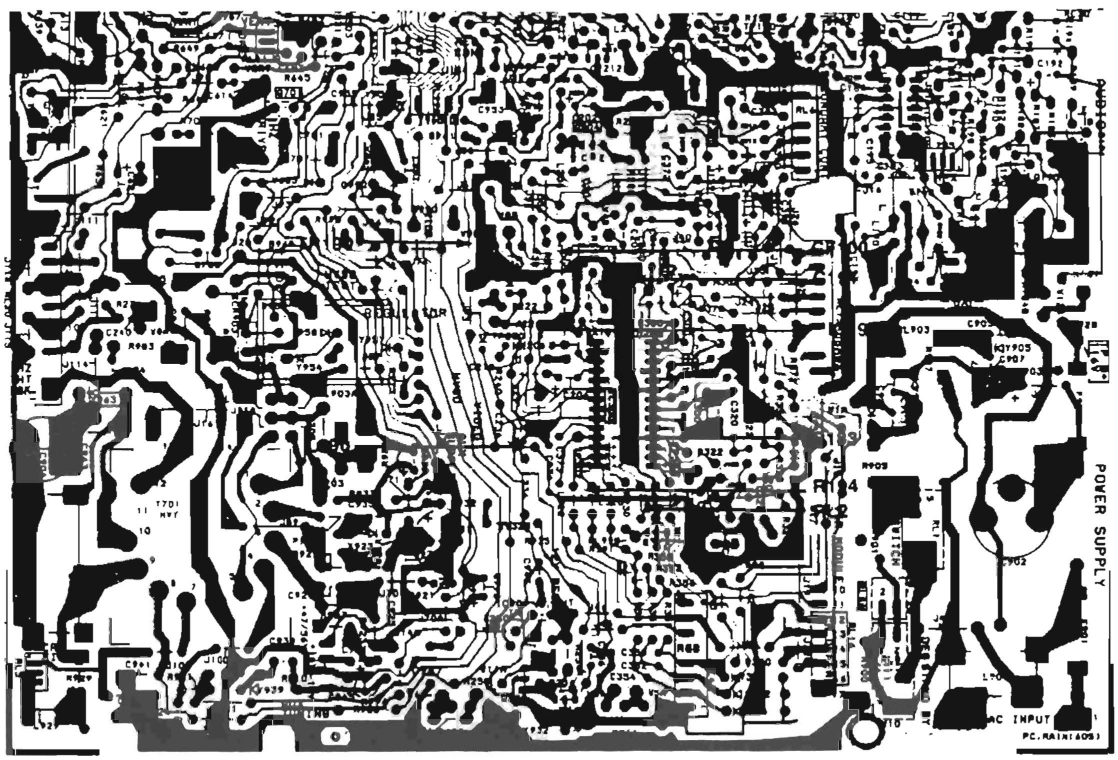


ABBREVIATED FLOW CHART



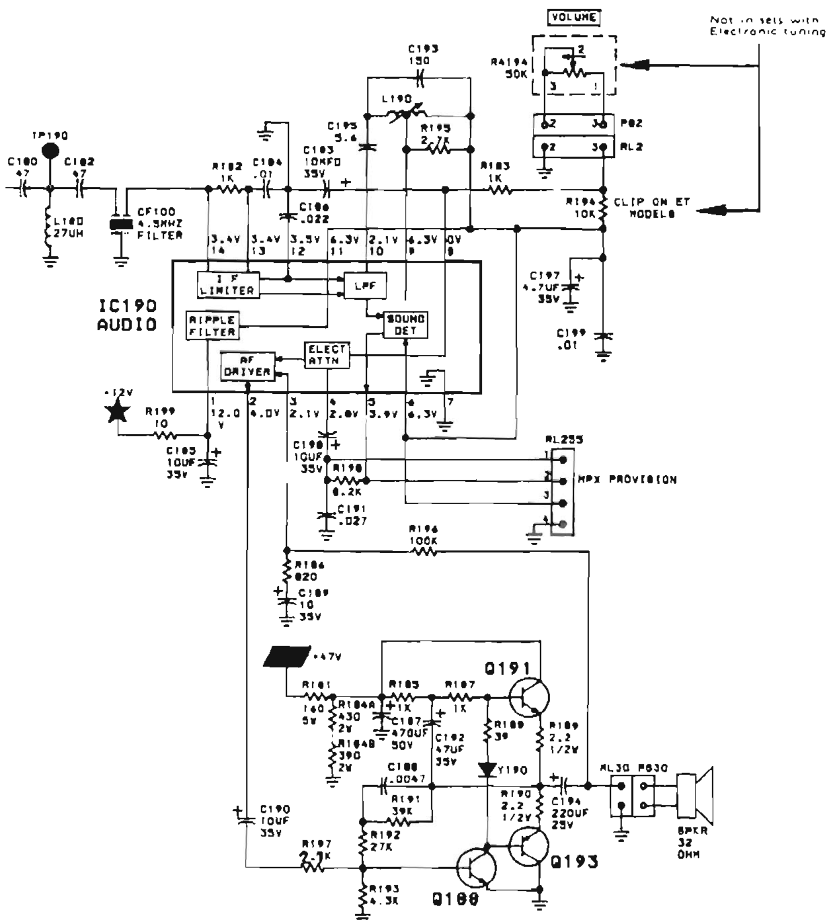
Circuit analysis and theory of operation contained in technical training manual Pub # 29-0555-81

COMPONENT LOCATION (FOIL SIDE)

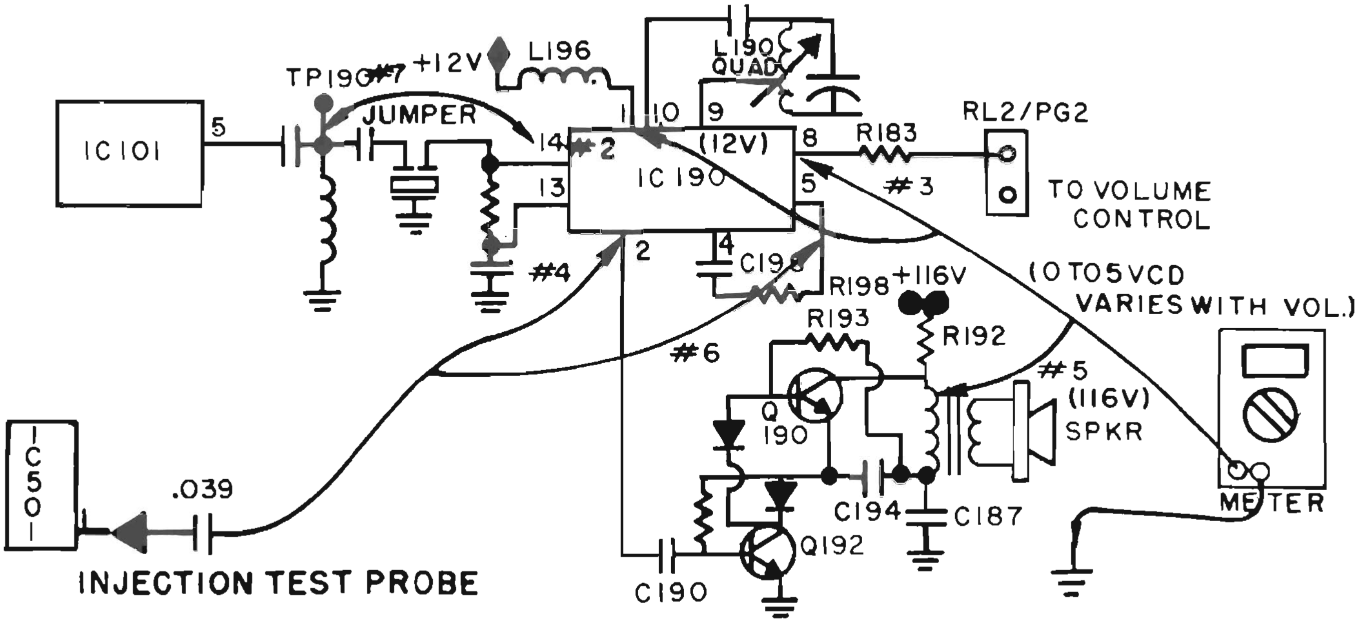


DISCONNECT PG2. DOES SET HAVE AUDIO.
NOTE: THIS MAY PRODUCE LOUDER THAN NORMAL SOUND LEVELS.

- YES → IF SET HAS ELECTRTONIC VOLUME CONTROL, PROBLEM IS IN TUNER CONTROL SYSTEM. IF SET HAS MANUAL VOLUME CONTROL, CHECK VOLUME CONTROL AND CABLE FROM PG2 FOR SHORTS.
- NO → CHECK VOLTAGE ON PIN 1 OF IC190. IS IT #12VDC
  - NO → CHECK L196 AND COPPER PATTERN FOR OPENS
  - YES → CHECK VOLTAGE ON PIN 8 OF IC190. IS IT AT LEAST 5VDC?
    - NO → CHECK R183 & R194
    - YES → USE A .039µf CAPACITOR AND JUMPER WIRE TO INJECT A SIGNAL FROM IC501 PIN 1 IC190 PIN 2. DO YOU GET A BUZZ FROM THE SPEAKER.
      - NO → CHECK DC VOLTAGE ON COLLECTOR OF Q190 IS IT +116V?
        - NO → CHECK R192 AND COPPER PATTERN
        - YES → CHECK Q190, Q192 AND T192 FOR OPENS
      - YES → INJECT SIGNAL INTO PIN 5 OF IC190. DO YOU GET A BUZZ FROM THE SPEAKER?
        - NO → CHECK R190, C190 AND COPPER PATTERN FOR OPENS AND C191 FOR SHORTS IF OK REPLACE IC190
        - YES → USE A JUMPER WIRE AND JUMP TO 190 TO PIN14 OF IC190. DO YOU HAVE AUDIO?
          - YES → CHECK C102 AND COPPER PATTERN BETWEEN TP190 AND PIN 1 OF IC190. IF OK REPLACE CF100.
          - NO → CHECK RESISTANCE OF L190 (CHECK ACROSS C193). DOES IT READ 1.5 TO 1.7 OHMS?
            - YES → CHECK IC190 FOR POOR SOLDER CONNECTIONS IF OK. REPLACE IC190.
            - NO → REPLACE L190

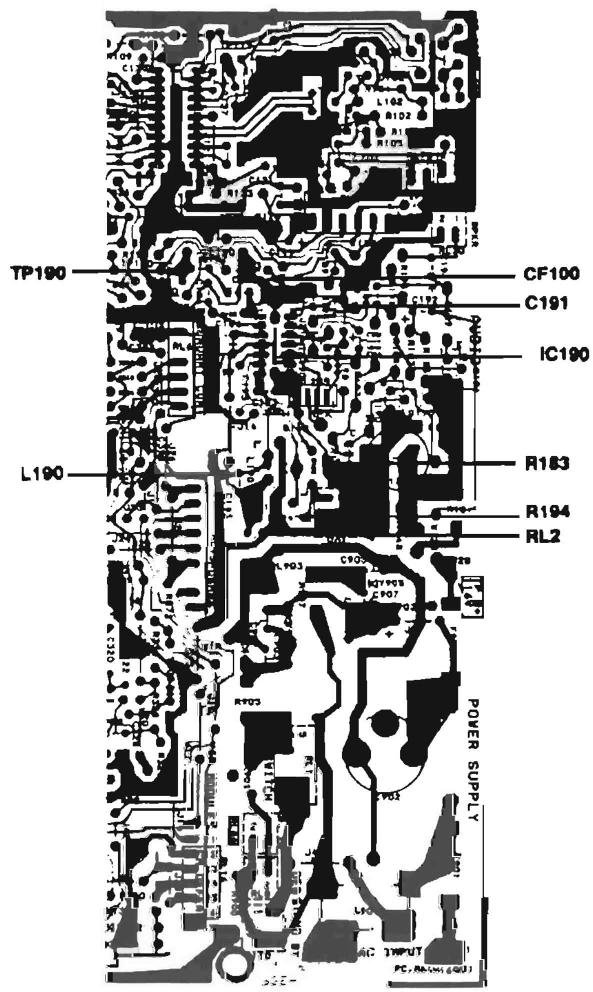


ABBREVIATED FLOW CHART



Circuit analysis and theory of operation contained in technical training manual Pub # 29-0555-81

COMPONENT LOCATION (FOIL SIDE)

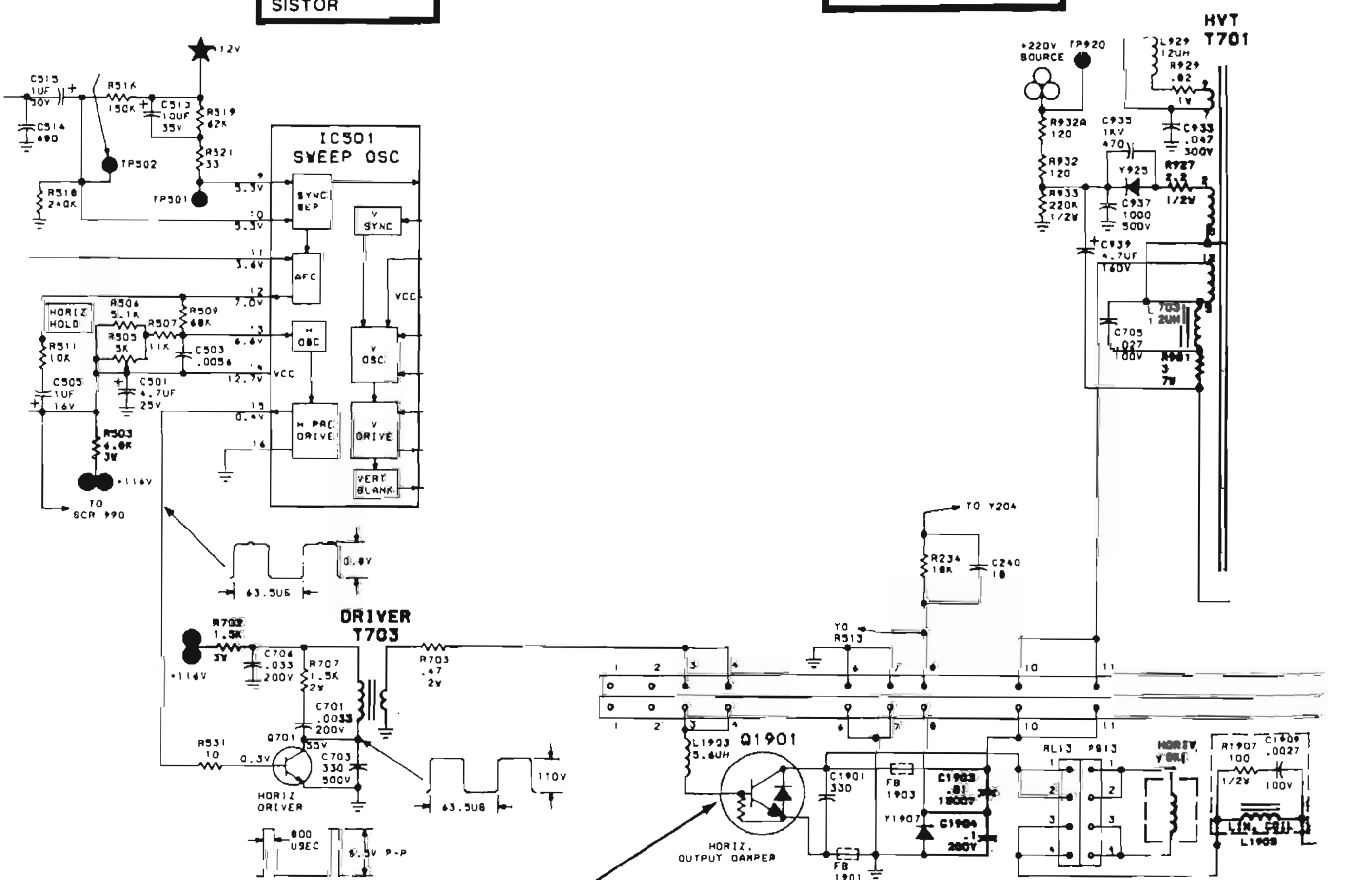


*MOTORBOATING IS DUE TO A LOSS OF SIGNAL THROUGH THE HORIZONTAL SWEEP CIRCUIT, BUT ALSO CAN BE A RESULT OF THE HIGH VOLTAGE SHUTDOWN CIRCUIT OR THE REGULATOR CIRCUIT.

*NOTE: ALL AC VOLTAGES WERE TAKEN UTILIZING A BECKMAN 310 METER.

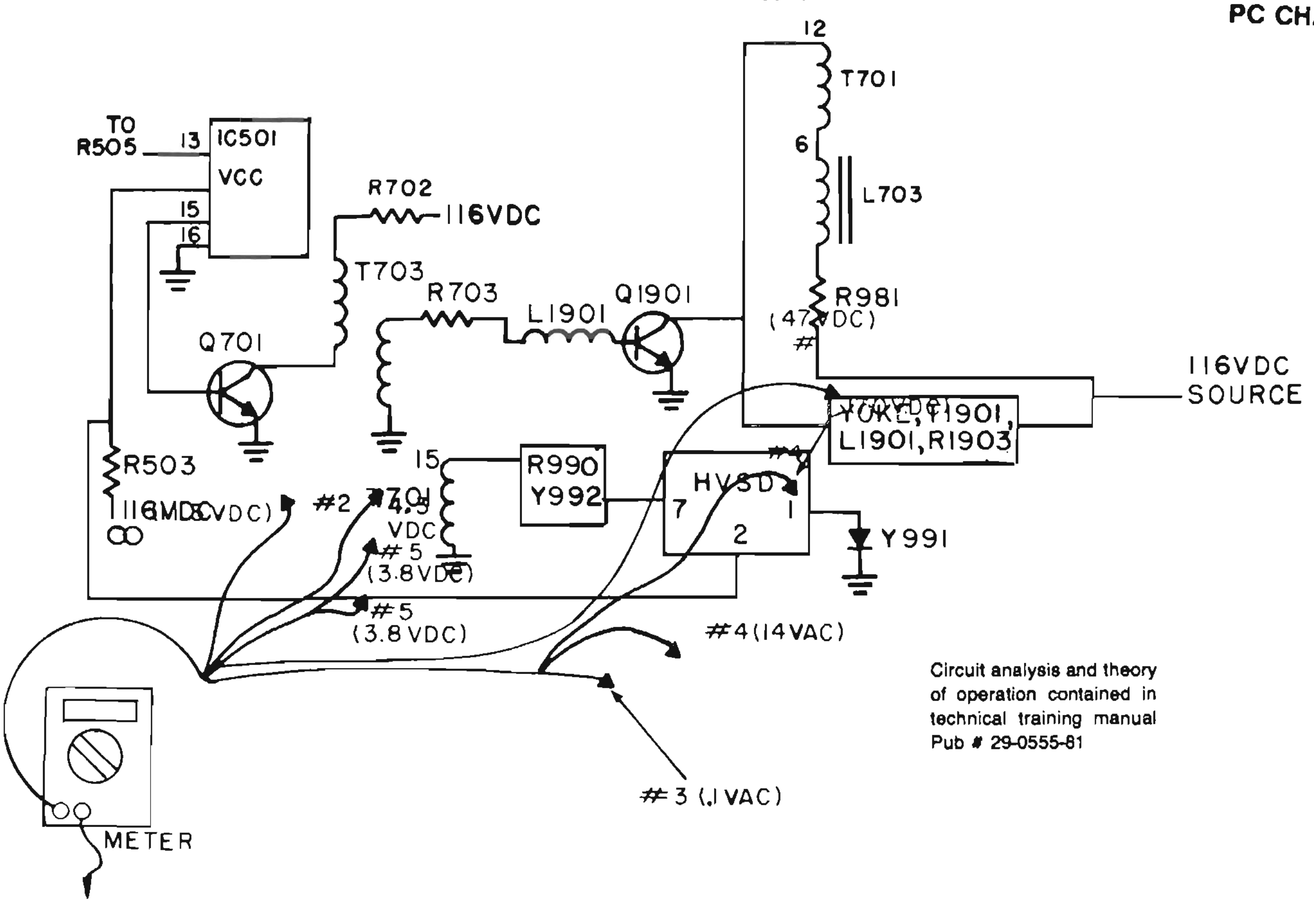
MOTORBOATING NOISE OR TICKING IN FLYBACK

- CHECK FOR AC VOLTAGE ON THE COLLECTOR OF Q701
  - 40 TO 60 VAC → CHECK FOR AC VOLTAGE ON THE BASE OF Q1901
    - 0VAC → CHECK R703, L1903 T703 SECONDARY (NORMALLY 2.6Ω)
    - .7V TO 1VAC → CHECK FOR AC VOLTAGE ON COLLECTOR OF Q1901
      - 160-210VAC → POSSIBLE DEFECTIVE FLYBACK.
      - 0VAC → CHECK FOR DC VOLTAGE ON COLLECTOR OF Q1901
        - VARYING 116VDC → POSSIBLE OPEN Q1901 OR POOR SOLDER CONNECTIONS ON TRANSISTOR.
        - 0VDC → OPEN R981 AND CENTERING CONTROL OPEN AS A RESULT OF R981 OPENING / CHECK FOR SHORTED OUTPUT TRANSISTOR
        - /0VDC → OPEN R981 VOLTAGE IS BEING DROPPED ACROSS HORIZONTAL CENTERING CONTROL.
  - 0 TO 14VAC COULD BE VARING → MEASURE THE DC VOLTAGE ON THE COLLECTOR OF Q701
    - 0VDC → OPEN R702, OPEN T703, SHORTED Q701
    - 55VDC → CHECK THE AC VOLTAGE ON PIN 15 OF IC501
      - .5VAC → OPEN R531 OR Q701
      - 0VDC → CHECK PIN 14 OF IC501 FOR DC VOLTAGE.
        - 12.7VDC → IC501 DEFECTIVE OR LOOSE CONNECTION ON HORIZONTAL HOLD CONTROL, R505.
        - 0VDC → CHECK PIN 1 OF HVSD MODULE FOR DC VOLTAGE
          - .6 OR .7VDC → UNIT IN HVSD SHUTDOWN. GO TO POWER SUPPLY BLOCK CHART #1
          - .5VDC OR LESS → OPEN R503 SHORTED C501



HORIZ. OUTPUT XSISTOR AND DAMPER DIODE ARE INCLUDED IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT GE CATALOG REPLACEMENT PART NUMBER EP15X218.

ABBREVIATED FLOW CHART



Circuit analysis and theory of operation contained in technical training manual Pub # 29-0555-81

COMPONENT LOCATION (FOIL SIDE)

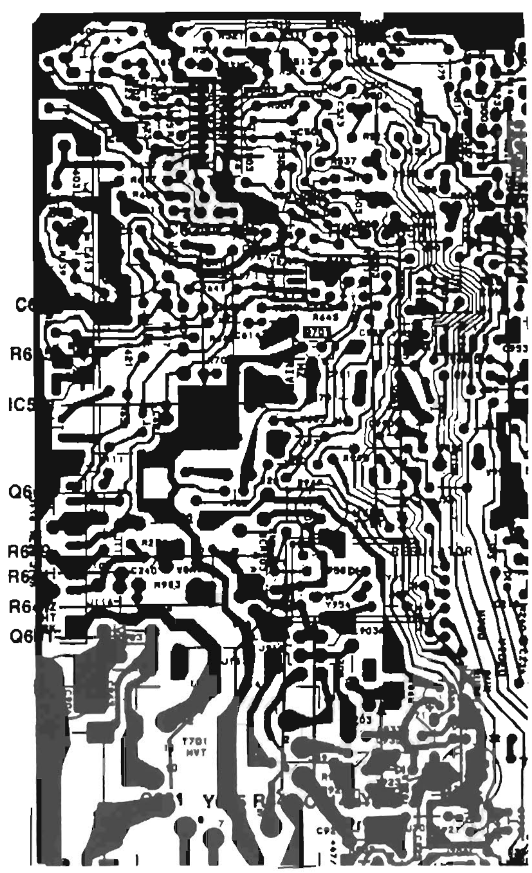


CHART #8 NO OR INCORRECT VERTICAL DEFLECTION

PC CHASSIS

NO VERTICAL DEFLECTION

CHECK FOR 4.7VDC ON THE ANODE OF Y605. IS IT 47VDC ± 10%

- YES → CHECK FOR 11.3 VDC ON PIN 5 OF IC501. IS IT PRESENT?
  - YES → CHECK THE AC VOLTAGE ON PIN 1 OF IC501. IS THE VOLTAGE .1VAC?
    - YES → CHECK FOR AC VOLTAGE ON THE BASE OF Q603. IS THE VOLTAGE .1VAC / 0VAC?
      - .1VAC → CHECK THE AC VOLTAGE ON THE COLLECTOR Q603. IS THE VOLTAGE 14VAC ± 2 VAC?
        - YES → CHECK R641, Y607, OR YOKE WINDING (NORMALLY 56Ω) C605, C623
        - NO → CHECK Q603 AND SUPPORTING COMPONENTS
      - 0VAC → CHECK R637 FOR OPEN OR POOR SOLDER CONNECTIONS
    - NO → CHECK THE DC VOLTAGE ON PINS 3, 4, 5 OF IC501 ARE THEY NORMAL
      - YES → REPLACE IC501
      - NO → CHECK C623 AND COMPONENTS OFF OF PIN 4 OF IC501. DEFECTIVE RETURNS TO IC501, PINS 3, 4, 3 WILL CAUSE THE FOLLOWING SYMPTOMS. PIN 3 AND 6: NO VERTICAL SWEEP STEADY LINE. PIN 4: NO VERTICAL SWEEP BOUNCING LINE. → REPLACE IC501
  - NO → CHECK FOR OPEN R625 SHORTED C607, OR POOR CONNECTIONS FROM THE EMITTER OF Q905 TO R625
- NO → CHECK FOR OPEN Y923, R925 OR POOR SOLDER CONNECTIONS OR OPEN PATTERNS

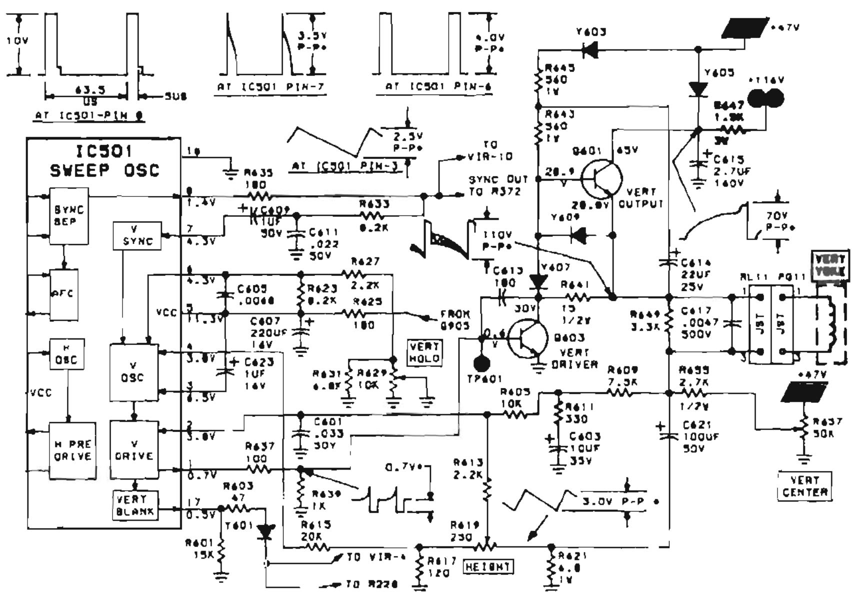
HOW MUCH VERTICAL SWEEP DO YOU HAVE? JUST BELOW FULL SWEEP. / ONLY 1" TO 4" OF SWEEP.

- JUST BELOW FULL SWEEP → CHECK FOR PROPER CENTERING AND HEIGHT ADJUSTMENTS. SOME OF THE HEIGHT PROBLEMS CAN BE ADJUSTED OUT, BUT RESULT IN IMPROPER LINEARITY. IF THIS OCCURS, GO TO NEXT BLOCK BELOW.
  - IS THE DC VOLTAGE ON THE COLLECTOR OF Q601? 50VDC / 70VDC
    - 50VDC → CHECK FOR MISSING 116 VDC SUPPLY AT R647, OPEN R647, OPEN Y605. ALSO CHECK FOR POOR SOLDER CONNECTIONS.
    - 70VDC → CHECK C614, R649, C605, R657 ALSO CHECK FOR POOR SOLDER CONNECTIONS.
- ONLY 1" TO 4" OF SWEEP → CHECK THE DC VOLTAGE ON THE COLLECTOR OF Q601. 116 VDC / 50 VDC / 23 VDC
  - 116 VDC → CHECK FOR A DEFECTIVE Q601 OR ASSOCIATED COMPONENT IN BASE CIRCUITS.
  - 50 VDC → CHECK C621, Y603, R643, R645 AND ASSOCIATED CIRCUITS FOR POOR SOLDER CONNECTIONS.
  - 23 VDC → DEFECTIVE Q601 SHORT FORM EMITTER TO COLLECTOR

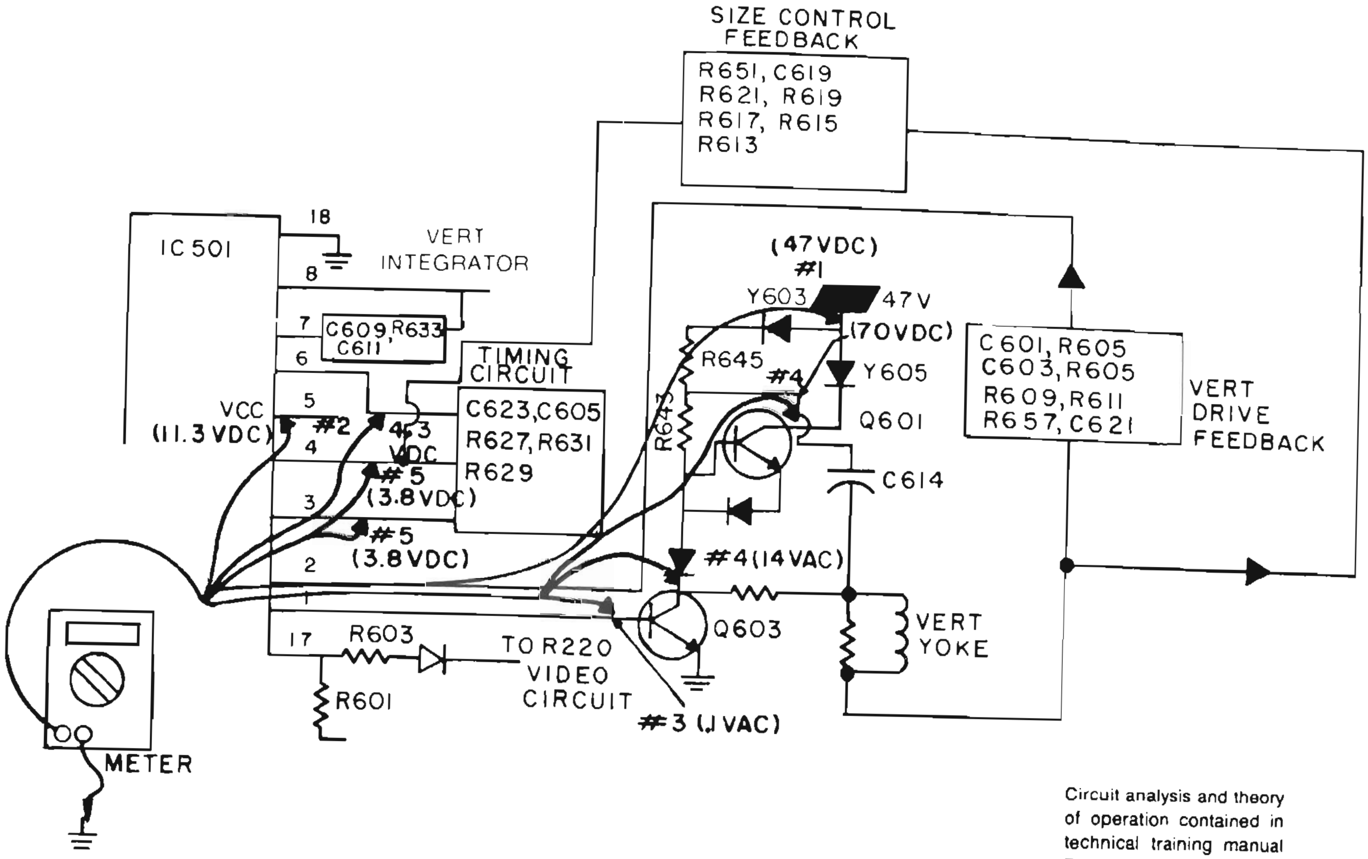
BLANK RASTER (NO BRIGHTNESS)

CHECK PIN 7 OF IC501. DO YOU MEASURE 8 VDC / .5 VDC

- 8 VDC → DESOLDER PIN 17 OF IC501. DOES A VERTICAL LINE RETURN.
  - YES → MOST LIKELY PROBLEM WILL BE FOUND IN THE VERTICAL OSC RETURN OF IC501 ON PIN 2. CHECK ASSOCIATED COMPONENTS.
  - NO → (back to CHECK PIN 7 OF IC501)
- .5 VDC → GO TO CHART #4.



ABBREVIATED FLOW CHART



Circuit analysis and theory of operation contained in technical training manual Pub# 29-0555-81

COMPONENT LOCATION (FOIL SIDE)

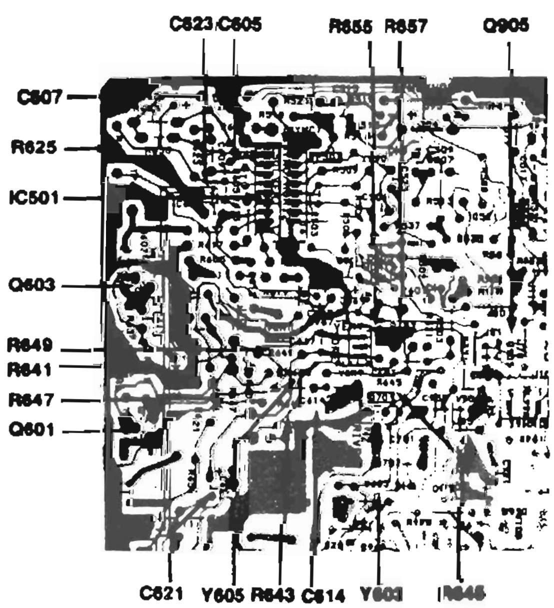
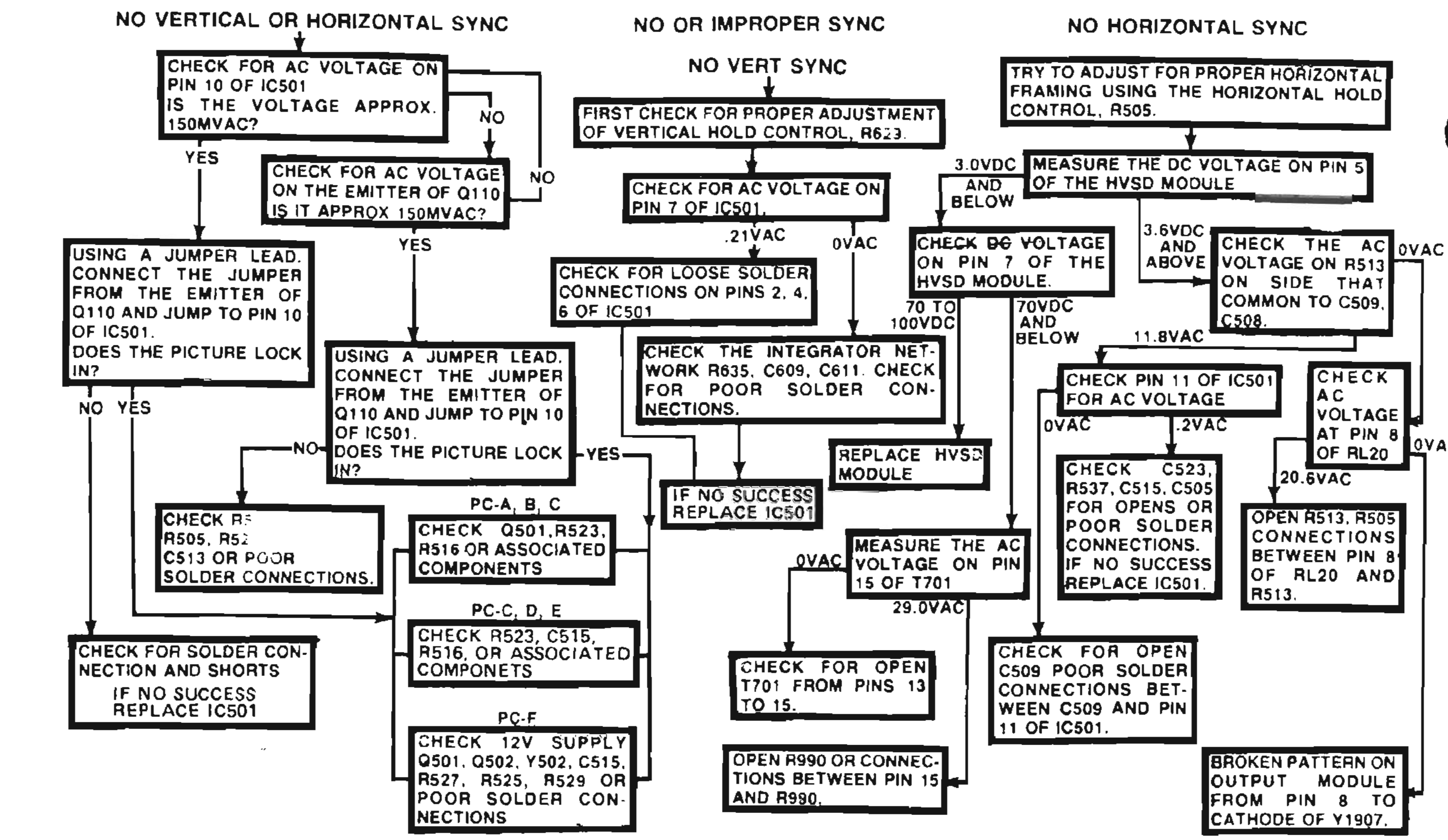


CHART #9 NO OR IMPROPER SYNC & INSUFFICIENT HORIZ. SWEEP

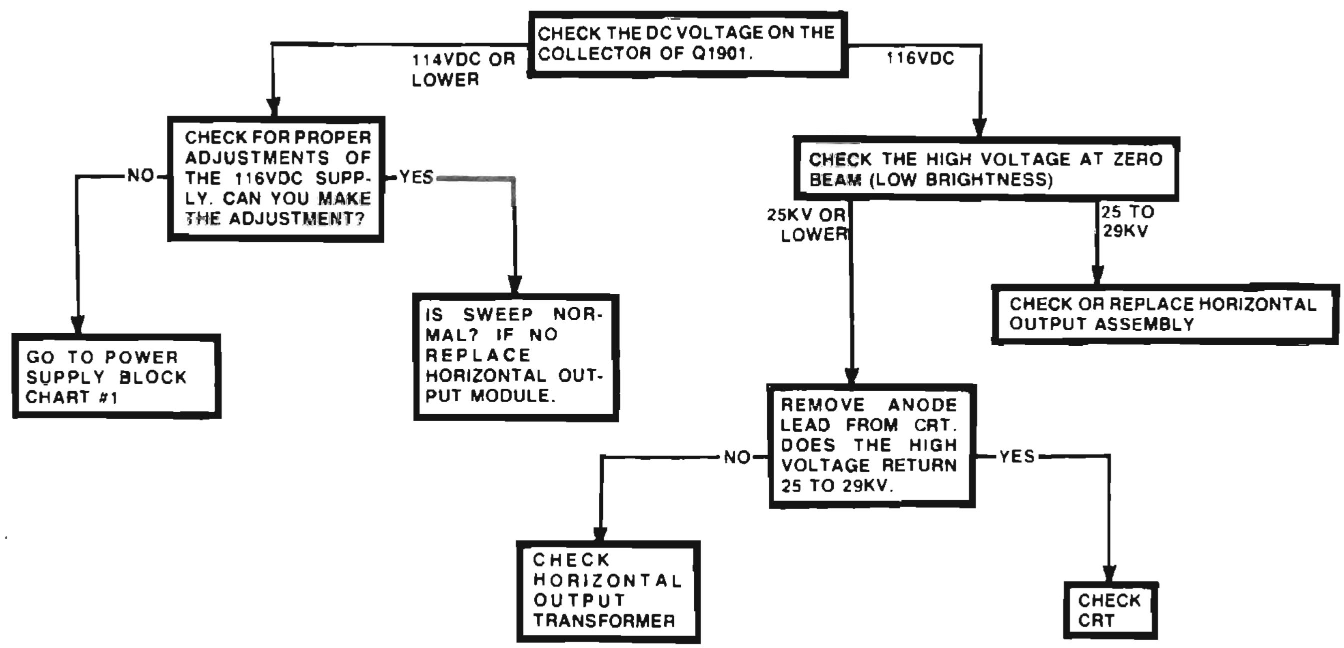
PC CHASSIS

(AC VOLTAGES IN THIS BRANCH OF CHART MAY VARY WITH SIGNAL STRENGTH.)



*NOTE: ALL AC VOLTAGES WERE TAKEN UTILIZING A BECKMAN 310 METER.

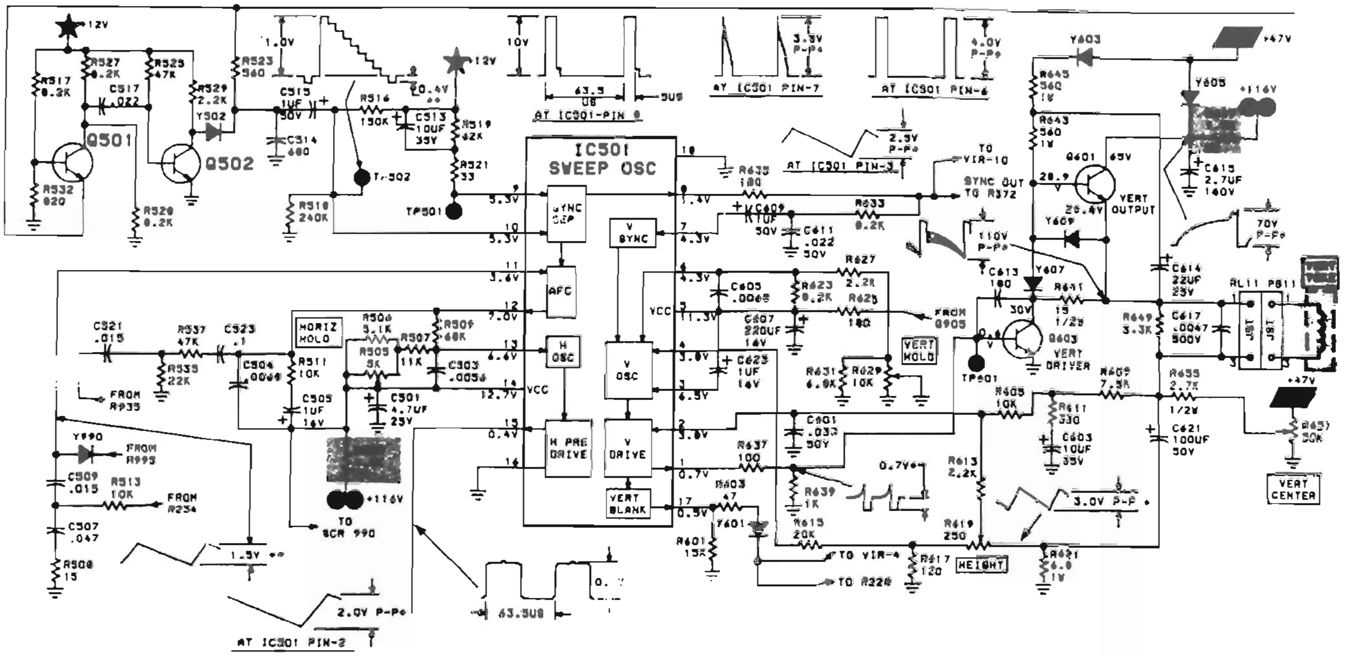
INSUFFICIENT SWEEP



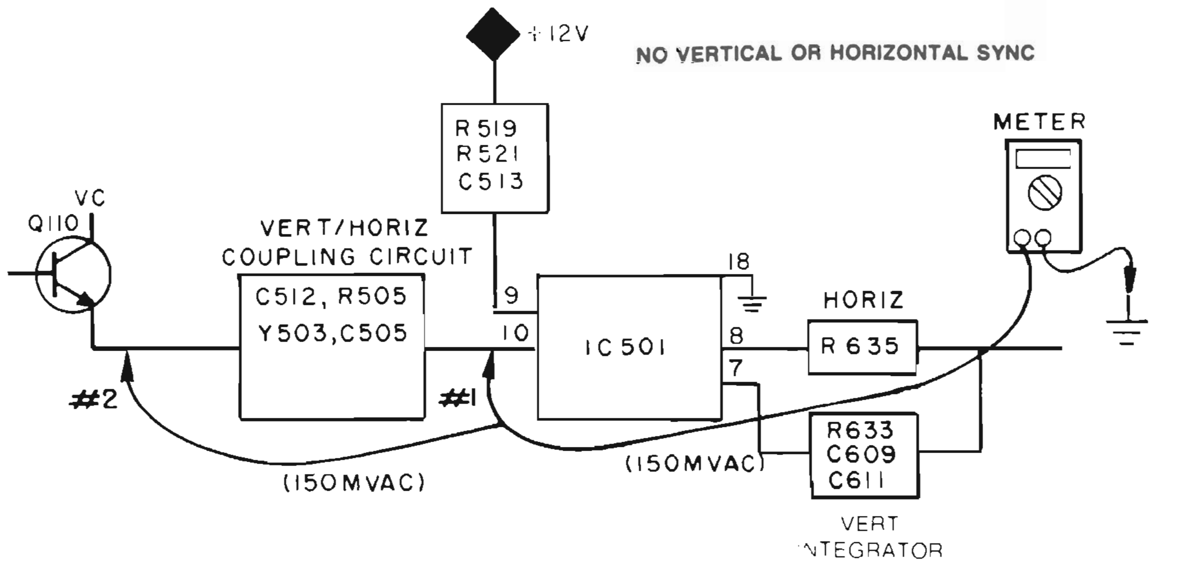
DISTORTION IN RASTER

SOME DISTORTIONS IN THE RASTER THAT CAN BE INTERPRETED AS A HORIZONTAL PROBLEM ARE SOMETIMES FOUND TO BE IN THE REGULATOR CIRCUIT.

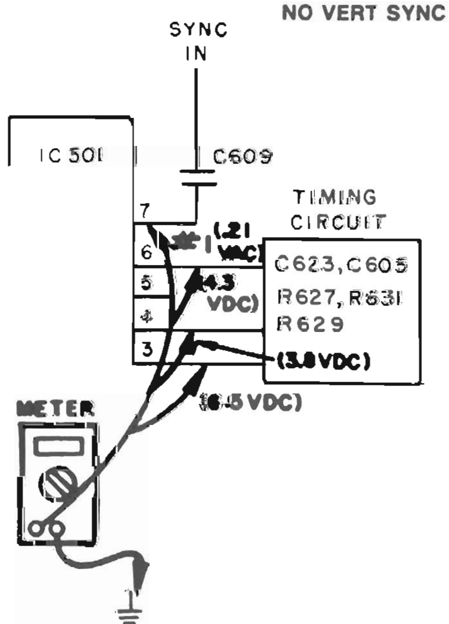
- KEYSTONED RASTER/WITH MOTORBOATING NOISE ACCOMPANIED BY HUM.
- INTERMITTENT BENDING OF VERTICAL LINES.



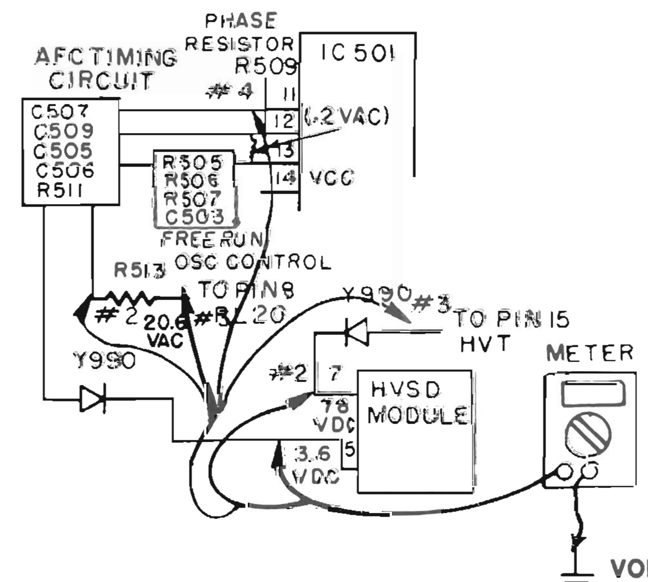
NO VERTICAL OR HORIZONTAL SYNC



NO VERT SYNC



NO HORIZONTAL SYNC



PC SYMPTOM REPAIR INFORMATION

SYMPTOM	MOST LIKELY CAUSE	CAT #19"	CAT #25"	REFER TO CHART #
1. Dead Set F903 Open	-Q901	EP15X218	EP15X218	#1
	-Y963	EP16X154	EP16X149	
	-SCR903	EP15X217	EP15X217	
	Picture Tube			
	-T701	EP77X56	EP77X58	
	-IC901	EP84X217	EP84X217	
	-C904	EP31X109	EP31X109	
	Solder Conn. on R951			
	If no fault found, cut out R941 (Behind Vertical Hold Control)			
2. Set Motorboats (If R981 is found to be open, also check R1903 horiz. cent. control)	-Q1901	EP15X218	EP15X218	#7
	-R981	EP14X318	EP14X258	
	-R1903	EP49X160	EP49X160	
	-R923	ES14X79	ES14X79	
	-R505	EP49X463	EP49X463	
	-Q905	EP15X57	EP15X57	
	-IC501	EP84X215	EP84X215	
	-Y951	EP16X19	EP16X19	
	-Loose conn.	T701, pins 5, 12		
	-HVSD Module	EP62X167	EP62X167	
3. Set Motorboats with distorted raster	-Y951	EP16X19	EP16X19	#1
	-Q901	EP15X91	EP15X91	
	-Q903	EP15X57	EP15X57	
4. Inter Shutdown	-SCR903	EP15X217	EP15X217	
	-HVSD Module	EP62X167	EP62X167	
	-T703	EP64X57	EP64X57	
	-Solder conn. or defective R505			
	-Solder conn. or crack pin 13 of T701			
	-IC901	EP84X217	EP84X217	
5. No raster/ No Color/ HV OK/ Sound OK	-Q207	EP15X57	EP15X57	#2
	-Q202	EP15X48	EP15X48	
	-IC300	EP84X221	EP84X221	
	-Q200	EP15X88	EP15X88	
	-C218	EP31X78	EP31X78	
	-Loose conn. pins 23, 26 IC300			
	-R230	EP14X71	EP14X71	
6. No Video or Weak Video Color and Sound OK	-L220	EP36X439	EP36X439	#4
	-Q204	EP15X88	EP15X88	
	-Q206	EP15X83	EP15X83	
	-Solder conn. on R216			
	-C216	EP31X149	EP31X149	
	-R206	EP14X182	EP14X182	
	-C202	EP31X149	EP31X149	
	-VIR Module	EP93X390	EP93X390	
7. No Picture/ No Audio/ No Color/ Has Raster	-IC101	EP84X213	EP84X213	#3
	-R124	EP49X463	EP49X463	
	-Q105	EP15X104	EP15X104	
	-C118	EP22X32	EP22X32	
	-SF101 S.A.W. Filter	EP41X123	EP41X123	
		EP41X123	EP41X123	

PC SYMPTOM REPAIR INFORMATION (Continued)

SYMPTOM	MOST LIKELY CAUSE	CAT #19"	CAT #25"	REFER TO CHART #
8. No Picture/ No Audio/ HV OK	-R923	ES14X79	ES14X79	#3
	-Y921	EP16X149	EP16X149	
	-Loose conn. pins 3 & 6 of T701			
9. No Color/ Intermittent Color/ Video OK	-C302	EP31X49	EP31X49	#5
	-IC300	EP84X221	EP84X221	
	-Q300	EP15X88	EP15X88	
	-R318	Common	Common	
	-R312	EP14X304	EP14X304	
	-VIR Module	EP93X381	EP93X381	
10. Incorrect Color/ Video OK	-C322	EP18X184	EP18X187	#5
	-4352,354,350	EP16X58	EP16X58	
	-IC501	EP84X215	EP84X215	
	-VIR Module	EP93X381	EP93X381	
11. No Vertical/ Abnormal Vertical Sweep	-Q601	EP15X105	EP15X105	#8
	-Q603	EP15X105	EP15X105	
	-C621	EP31X169	EP31X140	
	-C607	EP31X141	EP31X141	
	-C623	EP31X49	EP31X49	
	-C605	EP18X229	EP18X229	
	-IC501	EP84X215	EP84X215	
12. No Vertical Sync	Misadjusted RF AGC Control, R131			#9
	-C611	EP25X130	EP25X130	
	-IC501	EP84X215	EP84X215	
	Solder conn. pin 8 IC501			
13. No Horizontal Sync/ Abnormal Sync	-Solder conn. or crack on pin 15 of T701			#9
	-Solder conn. or defective R505			
	-C505	EP31X49	EP31X49	
	-IC501	EP84X215	EP84X215	
	-HVSD Module	EP62X167	EP62X167	
14. Excessive Brightness May Have Retrace Lines	-Screen control set too high			#3
	-Q207	EP15X57	EP15X57	
	-R9321	Common	Common	
	-R927	ES14X80	ES14X80	
	-T701	EP77X56	EP77X58	
	-Loose conn. pin 2 of T701			
15. No Audio or Distorted Sound	-Q190	EP15X19	EP15X19	#6
	-Q192	EP15X19	EP15X19	
	-Speaker	See Model Sheet for #		
	-TCM	See Model Sheet for #		
	-IC190	EP84X216	EP84X216	
	-R193	Common	Common	
16. Dead/Won't Come On/No Motorboating or Ticking Noise	-Tuner Control Module/On-Off Switch or Relay			#1
	-R973	ES14X58	ES14X58	
	-Y957/Y958	EP16X148	EP16X148	
	-F901	EP10X19	EP10X19	

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CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VIRGINIA 23705

GENERAL ELECTRIC

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ELECTRONIC TUNING SYSTEMS

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

PC CHASSIS

ELECTRONIC TUNING SYSTEMS INDEX

91 CHANNEL TUNING SYSTEMS (ET91/KMP91/LMP91)

112/130 CHANNEL TUNING SYSTEMS (SET/KMP/KMPV/KMPS/KMPS3-LMP/MP-LMP1A/MP1A-LMP1B/MP1B)

- **Mini-Manuals:**

- **Circuit Board Layouts:**

ELECTRONIC TUNING SYSTEMS INDEX (CONT.)

- **Replacement Parts Lists:**

Tuner Control Modules

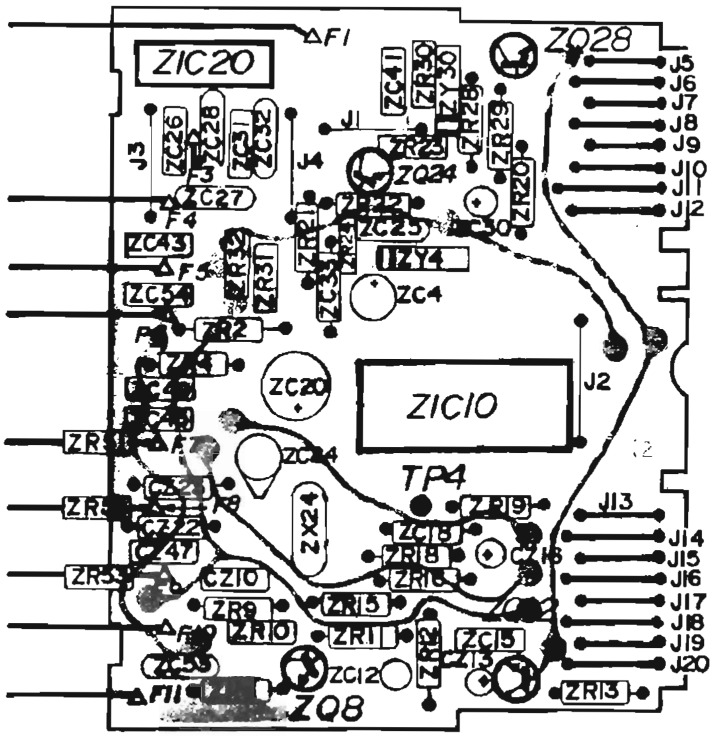
ELECTRONIC TUNING SYSTEMS INDEX (CONT.)

NOTE

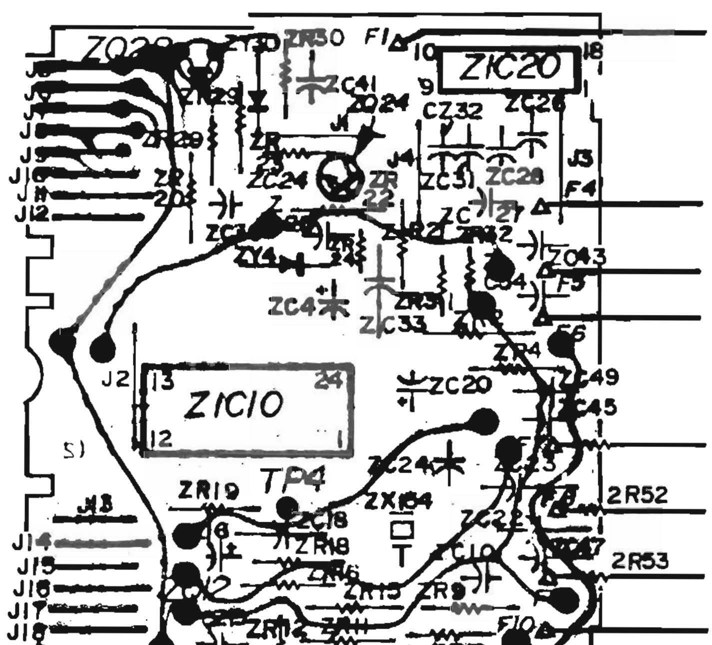
Refer to Section 2 of this Service Manual for UHF/VHF Electronic Tuner Schematic Diagrams.

ET91 CONTROL BOARD (w/PRESCALER)
EP93X386

M-R

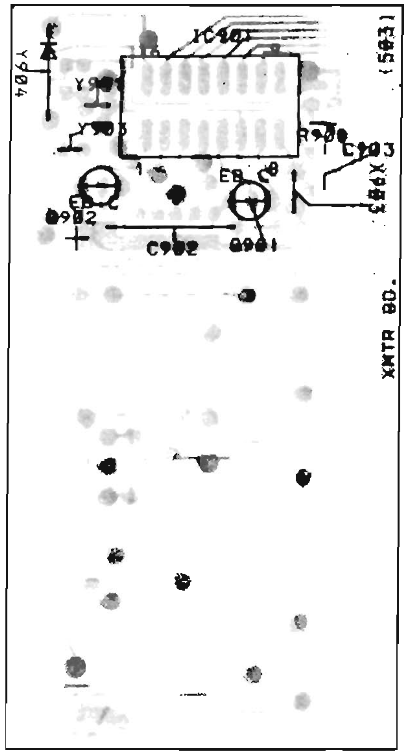


COMPONENT SIDE

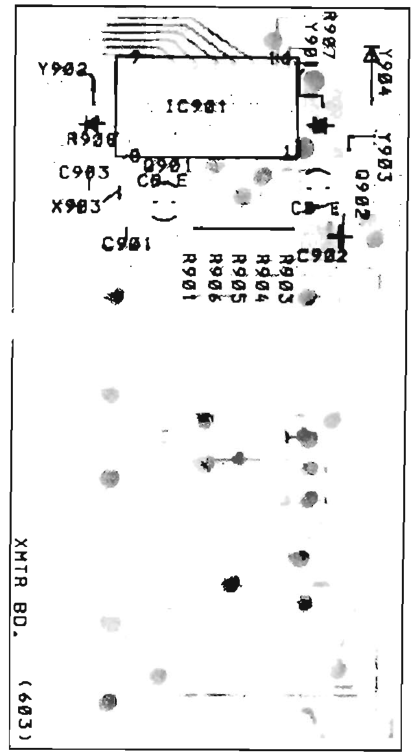


COPPER SIDE

112/130 REMOTE TRANSMITTER CIRCUIT BOARD LAYOUT



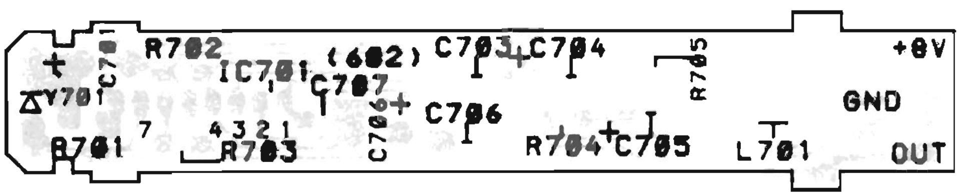
COMPONENT SIDE



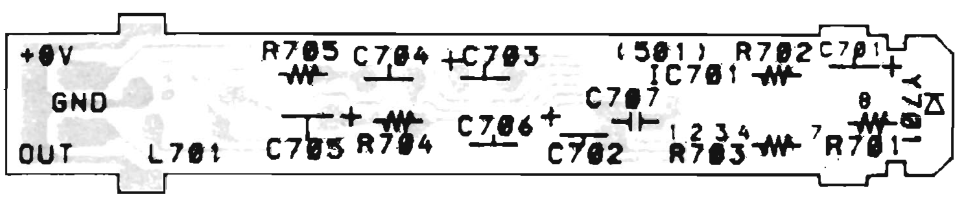
COPPER SIDE

(ORANGE COLOR = COMPONENT SIDE COPPER PATTERN)

112/130 REMOTE RECEIVER CIRCUIT BOARD LAYOUT



COMPONENT SIDE



COPPER SIDE

ELECTRONIC TUNING
REPLACEMENT PARTS LIST

- Tuner Control Modules
- Remote Transmitters
- Remote Receivers

TUNER CONTROL CIRCUIT BOARD

EP93X412

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X150	10µf, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, SHIK, Cer. Disc
C508	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi-Polar, Elect.
C511	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP18X262	.01µf, 10%, 50V, SHIK, Cer. Disc
C600	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C601	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C602	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C603	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C604	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C605	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C606	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C607	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C608	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C609	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1µf, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C613	EP31X150	10µf, 20%, 50V, Elect.
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X167	.047µf, +80-20%, 50V, HiK, Cer.Disc
C621	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C622	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C623	EP31X150	10µf, 20%, 50V, Elect.
C624	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C625	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C626	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C627	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C650	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X61	820 ohm, 5%, l/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	Common	39 ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/8W, Carbon
R501	ES14X62	l.5K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R508	Common	2.2 meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	EP14X284	1K ohm, 5%, l/8W, Carbon
R512	ES14X62	l.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	Common	200K ohm, 5%, l/8W, Carbon
R520	EP14X212	82 ohm, 5%, l/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, l/8W, Carbon
R602	EP14X271	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	Common	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X104	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	Common	1.2K ohm, 5%, l/8W, Carbon
R614	Common	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X193	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X104	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/8W, Carbon

R638	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R639	EP14X303	220K ohm, 5%, I/8W, Carbon
R641	EP14X271	33K ohm, 5%, I/8W, Carbon
R642	EP14X133	470K ohm, 5%, I/8W, Carbon
R643	EP14X284	10K ohm, 5%, I/8W, Carbon
R644	ES14X70	100 ohm, 5%, I/8W, Carbon
R645	EP14X271	33K ohm, 5%, I/8W, Carbon
R648	Common	30K ohm, 5%, I/8W, Carbon
R649	EP14X193	47K ohm, 5%, I/8W, Carbon
R650	EP14X238	620 ohm, 5%, I/8W, Carbon
R651	EP14X238	620 ohm, 5%, I/8W, Carbon
R652	EP14X238	620 ohm, 5%, I/8W, Carbon
R653	EP14X238	620 ohm, 5%, I/8W, Carbon
R654	EP14X238	620 ohm, 5%, I/8W, Carbon
R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon
R663	EP14X238	620 ohm, 5%, I/8W, Carbon
R664	EP14X284	10K ohm, 5%, I/8W, Carbon
R665	EP14X284	10K ohm, 5%, I/8W, Carbon
R666	EP14X284	10K ohm, 5%, I/8W, Carbon
R668	EP14X193	47K ohm, 5%, I/8W, Carbon
R669	EP14X104	22K ohm, 5%, I/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, I/8W, Carbon
R671	EP14X103	10K ohm, 5%, I/8W, Carbon
R672	EP14X103	10K ohm, 5%, I/8W, Carbon
R673	EP14X103	10K ohm, 5%, I/8W, Carbon
R674	EP14X103	10K ohm, 5%, I/8W, Carbon
R675	EP14X103	10K ohm, 5%, I/8W, Carbon
R676	EP14X103	10K ohm, 5%, I/8W, Carbon
R677	EP14X288	30K ohm, 5%, I/8W, Carbon
R678	EP14X285	15K ohm, 5%, I/8W, Carbon
R679	EP14X285	15K ohm, 5%, I/8W, Carbon
R680	EP14X285	15K ohm, 5%, I/8W, Carbon
R681	EP14X285	15K ohm, 5%, I/8W, Carbon
R682	EP14X285	15K ohm, 5%, I/8W, Carbon
R683	EP14X285	15K ohm, 5%, I/8W, Carbon
R685	EP14X303	470 ohm, 5%, I/8W, Carbon
R687	Common	36K ohm, 5%, I/4W, Carbon
R688	EP14X103	10K ohm, 5%, I/8W, Carbon
R689	EP14X284	10K ohm, 5%, I/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, I/8W, Carbon
R691	ES14X70	100 ohm, 5%, I/8W, Carbon
R692	EP14X193	47K ohm, 5%, I/8W, Carbon
R693	Common	220 ohm, 5%, I/8W, Carbon
R694	ES14X70	100 ohm, 5%, I/8W, Carbon
R800	EP14X284	10K ohm, 5%, I/8W, Carbon
R801	EP14X284	10K ohm, 5%, I/8W, Carbon
R802	EP14X284	10K ohm, 5%, I/8W, Carbon
R803	EP14X284	10K ohm, 5%, I/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X225	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q502	EP15X89	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%

TUNER CONTROL CIRCUIT BOARD

EP93X413

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X150	10µf, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HIK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi-Polar, Elect.
C511	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP18X262	.01µf, 10%, 50V, SHIK, Cer. Disc
C600	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C601	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C602	EP18X167	.047µf, +80-20%, 50V, HIK, Cer Disc
C603	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C604	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C605	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C606	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C607	EP18X167	.047µf, +80-20%, 50V, HIK, Cer Disc
C608	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C609	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1µf, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C613	EP31X150	10µf, 20%, 50V, Elect.
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X167	.047µf, +80-20%, 50V, HiK, Cer.Disc
C621	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C622	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C623	EP31X150	10µf, 20%, 50V, Elect.
C624	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C625	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C626	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C627	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C650	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, I/8W, Carbon
R102	ES14X61	820 ohm, 5%, I/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, I/4W, Carbon
R106	Common	39 ohm, 5%, I/8W, Carbon
R500	ES14X71	1K ohm, 5%, I/8W, Carbon
R501	ES14X62	I.5K ohm, 5%, I/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R503	EP14X284	1K ohm, 5%, I/8W, Carbon
R507	EP14X271	33K ohm, 5%, I/8W, Carbon
R508	Common	2.2 meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, I/8W, Carbon
R511	EP14X284	1K ohm, 5%, I/8W, Carbon
R512	ES14X62	I.5K ohm, 5%, I/8W, Carbon
R513	EP14X284	10K ohm, 5%, I/8W, Carbon
R514	EP14X284	10K ohm, 5%, I/8W, Carbon
R515	ES14X71	1K ohm, 5%, I/8W, Carbon
R516	ES14X70	100 ohm, 5%, I/8W, Carbon
R517	Common	200K ohm, 5%, I/8W, Carbon
R520	EP14X212	82 ohm, 5%, I/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, I/8W, Carbon
R602	EP14X271	16K ohm, 5%, I/8W, Carbon
R603	EP14X284	10K ohm, 5%, I/8W, Carbon
R604	EP14X285	15K ohm, 5%, I/8W, Carbon
R605	Common	1.2K ohm, 5%, I/8W, Carbon
R606	EP14X285	15K ohm, 5%, I/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R608	EP14X104	22K ohm, 5%, I/8W, Carbon
R609	EP14X104	22K ohm, 5%, I/8W, Carbon
R610	EP14X303	100K ohm, 5%, I/8W, Carbon
R611	EP14X303	100K ohm, 5%, I/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R613	Common	1.2K ohm, 5%, I/8W, Carbon
R614	Common	1.2K ohm, 5%, I/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R618	EP14X284	10K ohm, 5%, I/8W, Carbon
R619	EP14X284	10K ohm, 5%, I/8W, Carbon
R620	EP14X284	10K ohm, 5%, I/8W, Carbon
R621	EP14X284	10K ohm, 5%, I/8W, Carbon
R622	EP14X284	10K ohm, 5%, I/8W, Carbon
R623	EP14X284	10K ohm, 5%, I/8W, Carbon
R624	EP14X193	47K ohm, 5%, I/8W, Carbon
R625	EP14X193	47K ohm, 5%, I/8W, Carbon
R626	EP14X193	47K ohm, 5%, I/8W, Carbon
R627	EP14X193	47K ohm, 5%, I/8W, Carbon
R628	EP14X193	47K ohm, 5%, I/8W, Carbon
R629	EP14X193	47K ohm, 5%, I/8W, Carbon
R630	EP14X193	47K ohm, 5%, I/8W, Carbon
R631	EP14X284	10K ohm, 5%, I/8W, Carbon
R632	EP14X285	15K ohm, 5%, I/8W, Carbon
R633	EP14X285	15K ohm, 5%, I/8W, Carbon

R635	EP14X104	22K ohm, 5%, I/8W, Carbon
R636	EP14X193	47K ohm, 5%, I/8W, Carbon
R637	EP14X103	10K ohm, 5%, I/8W, Carbon
R638	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R639	EP14X303	220K ohm, 5%, I/8W, Carbon
R641	EP14X271	33K ohm, 5%, I/8W, Carbon
R642	EP14X133	470K ohm, 5%, I/8W, Carbon
R643	EP14X284	10K ohm, 5%, I/8W, Carbon
R644	ES14X70	100 ohm, 5%, I/8W, Carbon
R645	EP14X271	33K ohm, 5%, I/8W, Carbon
R648	Common	30K ohm, 5%, I/8W, Carbon
R649	EP14X193	47K ohm, 5%, I/8W, Carbon
R650	EP14X238	620 ohm, 5%, I/8W, Carbon
R651	EP14X238	620 ohm, 5%, I/8W, Carbon
R652	EP14X238	620 ohm, 5%, I/8W, Carbon
R653	EP14X238	620 ohm, 5%, I/8W, Carbon
R654	EP14X238	620 ohm, 5%, I/8W, Carbon
R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon
R663	EP14X238	620 ohm, 5%, I/8W, Carbon
R664	EP14X284	10K ohm, 5%, I/8W, Carbon
R665	EP14X284	10K ohm, 5%, I/8W, Carbon
R666	EP14X284	10K ohm, 5%, I/8W, Carbon
R668	EP14X193	47K ohm, 5%, I/8W, Carbon
R669	EP14X104	22K ohm, 5%, I/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, I/8W, Carbon
R671	EP14X103	10K ohm, 5%, I/8W, Carbon
R672	EP14X103	10K ohm, 5%, I/8W, Carbon
R673	EP14X103	10K ohm, 5%, I/8W, Carbon
R674	EP14X103	10K ohm, 5%, I/8W, Carbon
R675	EP14X103	10K ohm, 5%, I/8W, Carbon
R676	EP14X103	10K ohm, 5%, I/8W, Carbon
R677	EP14X288	30K ohm, 5%, I/8W, Carbon
R678	EP14X285	15K ohm, 5%, I/8W, Carbon
R679	EP14X285	15K ohm, 5%, I/8W, Carbon
R680	EP14X285	15K ohm, 5%, I/8W, Carbon
R681	EP14X285	15K ohm, 5%, I/8W, Carbon
R682	EP14X285	15K ohm, 5%, I/8W, Carbon
R683	EP14X285	15K ohm, 5%, I/8W, Carbon
R685	EP14X303	470 ohm, 5%, I/8W, Carbon
R687	Common	36K ohm, 5%, I/4W, Carbon
R688	EP14X103	10K ohm, 5%, I/8W, Carbon
R689	EP14X284	10K ohm, 5%, I/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, I/8W, Carbon
R691	ES14X70	100 ohm, 5%, I/8W, Carbon
R692	EP14X193	47K ohm, 5%, I/8W, Carbon
R693	Common	220 ohm, 5%, I/8W, Carbon
R694	ES14X70	100 ohm, 5%, I/8W, Carbon
R800	EP14X284	10K ohm, 5%, I/8W, Carbon
R801	EP14X284	10K ohm, 5%, I/8W, Carbon
R802	EP14X284	10K ohm, 5%, I/8W, Carbon
R803	EP14X284	10K ohm, 5%, I/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X225	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q502	EP15X89	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%

TUNER CONTROL CIRCUIT BOARD

EP93X414

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP31X162	100μf, 20%, 25V, Elect.
C102	ES31X31	47μf, 20%, 16V, Elect.
C103	EP31X150	10μf, 20%, 50V, Elect.
C500	EP18X262	.01μf, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C506	EP18X262	.01μf, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01μf, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1μf, 20%, 25V, Bi-Polar, Elect.
C511	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP18X262	.01μf, 10%, 50V, SHiK, Cer. Disc
C600	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C601	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C602	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C603	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C604	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C605	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C606	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C607	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C608	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C609	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C612	EP18X187	27pf, 10%, 50V, NPO, Cer. Disc
C613	EP31X149	10μf, 20%, 35V, Elect.
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C623	EP31X149	10μf, 20%, 35V, Elect.
C624	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C625	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C626	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C627	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C628	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	270 ohm, 5%, I/8W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	ES14X70	100 ohm, 5%, I/8W, Carbon
R106	Common	39 ohm, 5%, I/8W, Carbon
R107	Common	62 ohm, 5%, I/8W, Carbon
R500	EP14X284	1K ohm, 5%. I/8W, Carbon
R501	ES14X62	I.5K ohm, 5%, I/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R503	EP14X284	1K ohm, 5%, I/8W, Carbon
R504	Common	4.3meg ohm, 5%, I/4W, Carbon
R507	EP14X271	33K ohm, 5%, I/8W, Carbon
R508	Common	2.2 meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, I/8W, Carbon
R511	EP14X284	1K ohm, 5%, I/8W, Carbon
R512	ES14X62	I.5K ohm, 5%, I/8W, Carbon
R513	EP14X284	10K ohm, 5%, I/8W, Carbon
R514	EP14X284	10K ohm, 5%, I/8W, Carbon
R515	ES14X71	1K ohm, 5%, I/8W, Carbon
R516	ES14X70	100 ohm, 5%, I/8W, Carbon
R517	Common	200K ohm, 5%, I/8W, Carbon
R520	EP14X212	82 ohm, 5%, I/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, I/8W, Carbon
R602	EP14X271	16K ohm, 5%, I/8W, Carbon
R603	EP14X284	10K ohm, 5%, I/8W, Carbon
R604	EP14X285	15K ohm, 5%, I/8W, Carbon
R605	Common	1.2K ohm, 5%, I/8W, Carbon
R606	EP14X285	15K ohm, 5%, I/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R608	EP14X303	22K ohm, 5%, I/8W, Carbon
R609	EP14X303	22K ohm, 5%, I/8W, Carbon
R610	EP14X303	100K ohm, 5%, I/8W, Carbon
R611	EP14X303	100K ohm, 5%, I/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R613	Common	1.2K ohm, 5%, I/8W, Carbon
R614	Common	1.2K ohm, 5%, I/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R618	EP14X284	10K ohm, 5%, I/8W, Carbon
R619	EP14X284	10K ohm, 5%, I/8W, Carbon
R620	EP14X284	10K ohm, 5%, I/8W, Carbon
R621	EP14X284	10K ohm, 5%, I/8W, Carbon
R622	EP14X284	10K ohm, 5%, I/8W, Carbon
R623	EP14X284	10K ohm, 5%, I/8W, Carbon
R624	EP14X193	47K ohm, 5%, I/8W, Carbon
R625	EP14X193	47K ohm, 5%, I/8W, Carbon
R626	EP14X193	47K ohm, 5%, I/8W, Carbon
R627	EP14X193	47K ohm, 5%, I/8W, Carbon
R628	EP14X193	47K ohm, 5%, I/8W, Carbon
R629	EP14X193	47K ohm, 5%, I/8W, Carbon
R630	EP14X193	47K ohm, 5%, I/8W, Carbon
R631	EP14X284	10K ohm, 5%, I/8W, Carbon
R632	EP14X285	15K ohm, 5%, I/8W, Carbon
R633	EP14X285	15K ohm, 5%, I/8W, Carbon
R635	EP14X303	22K ohm, 5%, I/8W, Carbon
R636	EP14X193	47K ohm, 5%, I/8W, Carbon
R648	Common	30K ohm, 5%, I/8W, Carbon
R649	EP14X193	47K ohm, 5%, I/8W, Carbon
R650	EP14X238	620 ohm, 5%, I/8W, Carbon
R651	EP14X238	620 ohm, 5%, I/8W, Carbon
R652	EP14X238	620 ohm, 5%, I/8W, Carbon
R653	EP14X238	820 ohm, 5%, I/8W, Carbon
R654	EP14X238	620 ohm, 5%, I/8W, Carbon
R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon

R658	EP14X238	620 ohm, 5%, l/8W, Carbon
R659	EP14X238	620 ohm, 5%, l/8W, Carbon
R660	EP14X238	620 ohm, 5%, l/8W, Carbon
R661	EP14X238	620 ohm, 5%, l/8W, Carbon
R662	EP14X238	620 ohm, 5%, l/8W, Carbon
R663	EP14X238	620 ohm, 5%, l/8W, Carbon
R664	EP14X284	10K ohm, 5%, l/8W, Carbon
R665	EP14X284	10K ohm, 5%, l/8W, Carbon
R666	EP14X284	10K ohm, 5%, l/8W, Carbon
R667	EP14X193	47K ohm, 5%, l/8W, Carbon
R668	EP14X193	47K ohm, 5%, l/8W, Carbon
R669	EP14X303	22K ohm, 5%, l/8W, Carbon,
R670	EP14X250	2.2K ohm, 5%, l/8W, Carbon
R671	EP14X103	10K ohm, 5%, l/8W, Carbon
R672	EP14X103	10K ohm, 5%, l/8W, Carbon
R673	EP14X103	10K ohm, 5%, l/8W, Carbon
R674	EP14X103	10K ohm, 5%, l/8W, Carbon
R675	EP14X103	10K ohm, 5%, l/8W, Carbon
R676	EP14X103	10K ohm, 5%, l/8W, Carbon
R677	Common	43K ohm, 5%, l/8W, Carbon
R678	EP14X285	15K ohm, 5%, l/8W, Carbon
R679	EP14X285	15K ohm, 5%, l/8W, Carbon
R680	EP14X285	15K ohm, 5%, l/8W, Carbon
R681	EP14X285	15K ohm, 5%, l/8W, Carbon
R682	EP14X285	15K ohm, 5%, l/8W, Carbon
R683	EP14X285	15K ohm, 5%, l/8W, Carbon
R687	EP14X288	18K ohm, 5%, l/8W, Carbon
R692	EP14X193	47K ohm, 5%, l/8W, Carbon
R695	EP14X303	22K ohm, 5%, l/8W, Carbon
R696	EP14X284	10K ohm, 5%, l/8W, Carbon
R800	EP14X284	10K ohm, 5%, l/8W, Carbon
R801	EP14X284	10K ohm, 5%, l/8W, Carbon

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X226	Control Microprocessor

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q502	EP15X89	Loop Filter Amp, NPN, Silicon
Q503	EP15X87	Loop Filter Amp, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	10 Volt, Zener
Y108	EP16X152	5 Volt, Zener
Y109	EP16X32	30 Volt, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	6.2 Volt, Zener
Y800	EP16X32	30 Volt, Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%

TUNER CONTROL CIRCUIT BOARD

EP93X418

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X162	100µf, 20%, 25V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X150	10µf, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, SHIK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, SHIK, Cer. Disc
C508	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01µf, 10%, 50V, SHIK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi-Polar, Elect.
C511	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP18X262	.01µf, 10%, 50V, SHIK, Cer. Disc
C600	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C601	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C602	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C603	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C604	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C605	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C606	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C607	EP18X167	.047µf, +80-20%, 50V, HIK, Cer Disc
C608	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C609	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1µf, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C613	EP31X149	10µf, 20%, 35V, Elect.
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022µf, +80-20%, 50V, HIK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X167	.047µf, +80-20%, 50V, HIK, Cer Disc
C621	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C622	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C623	EP31X149	10µf, 20%, 35V, Elect.
C624	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C625	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C626	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C627	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, I/8W, Carbon
R102	ES14X68	470 ohm, 5%, I/2W, Metal Oxide
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, I/4W, Carbon
R106	Common	39 ohm, 5%, I/8W, Carbon
R255	EP14X92	56K ohm, 5%, I/4W, Carbon
R500	ES14X71	1K ohm, 5%, I/8W, Carbon
R501	ES14X62	I.5K ohm, 5%, I/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R503	EP14X284	1K ohm, 5%, I/8W, Carbon
R507	EP14X271	33K ohm, 5%, I/8W, Carbon
R508	EP14X171	2.2 meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, I/8W, Carbon
R511	EP14X284	1K ohm, 5%, I/8W, Carbon
R512	ES14X62	I.5K ohm, 5%, I/8W, Carbon
R513	EP14X284	10K ohm, 5%, I/8W, Carbon
R514	EP14X284	10K ohm, 5%, I/8W, Carbon
R515	ES14X71	1K ohm, 5%, I/8W, Carbon
R516	ES14X70	100 ohm, 5%, I/8W, Carbon
R517	Common	200K ohm, 5%, I/8W, Carbon
R555	EP14X92	56K ohm, 5%, I/4W, Carbon
R601	EP14X309	6.8K ohm, 5%, I/8W, Carbon
R602	EP14X271	16K ohm, 5%, I/8W, Carbon
R603	EP14X284	10K ohm, 5%, I/8W, Carbon
R604	EP14X285	15K ohm, 5%, I/8W, Carbon
R605	Common	1.2K ohm, 5%, I/8W, Carbon
R606	EP14X285	15K ohm, 5%, I/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R608	EP14X104	22K ohm, 5%, I/8W, Carbon
R609	EP14X104	22K ohm, 5%, I/8W, Carbon
R610	EP14X303	100K ohm, 5%, I/8W, Carbon
R611	EP14X303	100K ohm, 5%, I/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R613	Common	1.2K ohm, 5%, I/8W, Carbon
R614	Common	1.2K ohm, 5%, I/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R618	EP14X284	10K ohm, 5%, I/8W, Carbon
R619	EP14X284	10K ohm, 5%, I/8W, Carbon
R620	EP14X284	10K ohm, 5%, I/8W, Carbon
R621	EP14X284	10K ohm, 5%, I/8W, Carbon
R622	EP14X284	10K ohm, 5%, I/8W, Carbon
R623	EP14X284	10K ohm, 5%, I/8W, Carbon
R624	EP14X193	47K ohm, 5%, I/8W, Carbon
R625	EP14X193	47K ohm, 5%, I/8W, Carbon
R626	EP14X193	47K ohm, 5%, I/8W, Carbon
R627	EP14X193	47K ohm, 5%, I/8W, Carbon
R628	EP14X193	47K ohm, 5%, I/8W, Carbon
R629	EP14X193	47K ohm, 5%, I/8W, Carbon
R630	EP14X193	47K ohm, 5%, I/8W, Carbon
R631	EP14X284	10K ohm, 5%, I/8W, Carbon
R632	EP14X285	15K ohm, 5%, I/8W, Carbon
R633	EP14X285	15K ohm, 5%, I/8W, Carbon
R635	EP14X104	22K ohm, 5%, I/8W, Carbon

R636	EP14X193	47K ohm, 5%, I/8W, Carbon
R637	EP14X103	10K ohm, 5%, I/8W, Carbon
R638	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R639	EP14X303	220K ohm, 5%, I/8W, Carbon
R641	EP14X271	33K ohm, 5%, I/8W, Carbon
R642	EP14X133	470K ohm, 5%, I/8W, Carbon
R643	EP14X284	10K ohm, 5%, I/8W, Carbon
R644	ES14X70	100 ohm, 5%, I/8W, Carbon
R645	EP14X271	33K ohm, 5%, I/8W, Carbon
R648	EP14X288	30K ohm, 5%, I/8W, Carbon
R649	EP14X193	47K ohm, 5%, I/8W, Carbon
R650	EP14X238	620 ohm, 5%, I/8W, Carbon
R651	EP14X238	620 ohm, 5%, I/8W, Carbon
R652	EP14X238	620 ohm, 5%, I/8W, Carbon
R653	EP14X238	620 ohm, 5%, I/8W, Carbon
R654	EP14X238	620 ohm, 5%, I/8W, Carbon
R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon
R663	EP14X238	620 ohm, 5%, I/8W, Carbon
R664	EP14X284	10K ohm, 5%, I/8W, Carbon
R665	EP14X284	10K ohm, 5%, I/8W, Carbon
R666	EP14X284	10K ohm, 5%, I/8W, Carbon
R667	EP14X193	47K ohm, 5%, I/8W, Carbon
R668	EP14X193	47K ohm, 5%, I/8W, Carbon
R669	EP14X104	22K ohm, 5%, I/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, I/8W, Carbon
R671	EP14X103	10K ohm, 5%, I/8W, Carbon
R672	EP14X103	10K ohm, 5%, I/8W, Carbon
R673	EP14X103	10K ohm, 5%, I/8W, Carbon
R674	EP14X103	10K ohm, 5%, I/8W, Carbon
R675	EP14X103	10K ohm, 5%, I/8W, Carbon
R676	EP14X103	10K ohm, 5%, I/8W, Carbon
R677	Common	43K ohm, 5%, I/8W, Carbon
R678	EP14X285	15K ohm, 5%, I/8W, Carbon
R679	EP14X285	15K ohm, 5%, I/8W, Carbon
R680	EP14X285	15K ohm, 5%, I/8W, Carbon
R681	EP14X285	15K ohm, 5%, I/8W, Carbon
R682	EP14X285	15K ohm, 5%, I/8W, Carbon
R683	EP14X285	15K ohm, 5%, I/8W, Carbon
R685	EP14X303	470 ohm, 5%, I/8W, Carbon
R687	EP14X104	22K ohm, 5%, I/4W, Carbon
R688	EP14X103	10K ohm, 5%, I/8W, Carbon
R689	EP14X284	10K ohm, 5%, I/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, I/8W, Carbon
R691	ES14X70	100 ohm, 5%, I/8W, Carbon
R692	EP14X193	47K ohm, 5%, I/8W, Carbon
R693	Common	220 ohm, 5%, I/8W, Carbon
R694	ES14X70	100 ohm, 5%, I/8W, Carbon
R696	EP14X103	10K ohm, 5%, I/8W, Carbon
R800	EP14X284	10K ohm, 5%, I/8W, Carbon
R801	EP14X284	10K ohm, 5%, I/8W, Carbon
R802	EP14X284	10K ohm, 5%, I/8W, Carbon
R803	EP14X284	10K ohm, 5%, I/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R840	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC100	EP84X230	9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X231	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q502	EP15X89	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X57	PNP, Silicon
Q602	EP15X57	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh. 10%

TUNER CONTROL CIRCUIT BOARD

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CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X162	100μf, 20%, 25V, Elect.
C101	EP31X162	100μf, 20%, 25V, Elect.
C102	EP31X163	47μf, 20%, 25V, Elect.
C103	EP31X150	10μf, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01μf, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	EP18X270	390pf, 5%, 50V, NPO, Cer. Disc
C505	EP18X270	390pf, 5%, 50V, NPO, Cer. Disc
C506	EP18X262	.01μf, 10%, 50V, SHIK, Cer. Disc
C508	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01μf, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1μf, 20%, 50V, Bi-Polar, Elect.
C511	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP18X262	.01μf, 10%, 50V, SHiK, Cer. Disc
C600	EP18X167	.047μf, +80-20%, 50V, HIK, Cer Disc
C601	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C602	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C603	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C604	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C605	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C606	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C607	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C608	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C609	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1μf, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C613	EP31X150	10μf, 20%, 50V, Elect.
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C620	EP18X167	.047μf, +80-20%, 50V, HiK, Cer.Disc
C621	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C622	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C623	EP31X150	10μf, 20%, 50V, Elect.
C624	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C625	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C626	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C627	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/2W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, l/8W, Carbon
R106	Common	39 ohm, 5%, l/8W, Carbon
R500	EP14X284	1K ohm, 5%, l/8W, Carbon
R501	EP14X284	1K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R504	Common	4.3 meg, 5%, 1/4W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R508	Common	1.5 meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	ES14X62	l.5K ohm, 5%, l/8W, Carbon
R512	ES14X62	l.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	Common	200K ohm, 5%, l/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, l/8W, Carbon
R602	EP14X271	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	Common	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X303	22K ohm, 5%, l/8W, Carbon
R609	EP14X303	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	Common	1.2K ohm, 5%, l/8W, Carbon
R614	Common	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X193	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X303	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/8W, Carbon

R638	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R639	EP14X303	220K ohm, 5%, l/8W, Carbon
R641	EP14X271	33K ohm, 5%, l/8W, Carbon
R641A	EP14X105	100K ohm, 5%, l/4W, Carbon
R642	EP14X133	470K ohm, 5%, l/8W, Carbon
R643	EP14X284	10K ohm, 5%, l/8W, Carbon
R644	ES14X70	100 ohm, 5%, l/8W, Carbon
R645	EP14X271	33K ohm, 5%, l/8W, Carbon
R648	Common	30K ohm, 5%, l/8W, Carbon
R649	EP14X193	47K ohm, 5%, l/8W, Carbon
R650	EP14X238	620 ohm, 5%, l/8W, Carbon
R651	EP14X238	620 ohm, 5%, l/8W, Carbon
R652	EP14X238	620 ohm, 5%, l/8W, Carbon
R653	EP14X238	620 ohm, 5%, l/8W, Carbon
R654	EP14X238	620 ohm, 5%, l/8W, Carbon
R655	EP14X238	620 ohm, 5%, l/8W, Carbon
R656	EP14X238	620 ohm, 5%, l/8W, Carbon
R657	EP14X238	620 ohm, 5%, l/8W, Carbon
R658	EP14X238	620 ohm, 5%, l/8W, Carbon
R659	EP14X238	620 ohm, 5%, l/8W, Carbon
R660	EP14X238	620 ohm, 5%, l/8W, Carbon
R661	EP14X238	620 ohm, 5%, l/8W, Carbon
R662	EP14X238	620 ohm, 5%, l/8W, Carbon
R663	EP14X238	620 ohm, 5%, l/8W, Carbon
R664	EP14X284	10K ohm, 5%, l/8W, Carbon
R665	EP14X284	10K ohm, 5%, l/8W, Carbon
R666	EP14X284	10K ohm, 5%, l/8W, Carbon
R667	EP14X193	47K ohm, 5%, l/8W, Carbon
R668	EP14X193	47K ohm, 5%, l/8W, Carbon
R669	EP14X303	22K ohm, 5%, l/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, l/8W, Carbon
R671	EP14X103	10K ohm, 5%, l/8W, Carbon
R672	EP14X103	10K ohm, 5%, l/8W, Carbon
R673	EP14X103	10K ohm, 5%, l/8W, Carbon
R674	EP14X103	10K ohm, 5%, l/8W, Carbon
R675	EP14X103	10K ohm, 5%, l/8W, Carbon
R676	EP14X103	10K ohm, 5%, l/8W, Carbon
R677	EP14X288	30K ohm, 5%, l/8W, Carbon
R678	EP14X285	15K ohm, 5%, l/8W, Carbon
R679	EP14X285	15K ohm, 5%, l/8W, Carbon
R680	EP14X285	15K ohm, 5%, l/8W, Carbon
R681	EP14X285	15K ohm, 5%, l/8W, Carbon
R682	EP14X285	15K ohm, 5%, l/8W, Carbon
R683	EP14X285	15K ohm, 5%, l/8W, Carbon
R684	EP14X303	470 ohm, 5%, l/8W, Carbon
R687	Common	36K ohm, 5%, l/4W, Carbon
R688	EP14X103	10K ohm, 5%, l/8W, Carbon
R689	EP14X284	10K ohm, 5%, l/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, l/8W, Carbon
R691	ES14X70	100 ohm, 5%, l/8W, Carbon
R692	EP14X193	47K ohm, 5%, l/8W, Carbon
R693	Common	220 ohm, 5%, l/8W, Carbon
R694	ES14X70	100 ohm, 5%, l/8W, Carbon
R800	EP14X284	10K ohm, 5%, l/8W, Carbon
R801	EP14X284	10K ohm, 5%, l/8W, Carbon
R802	EP14X284	10K ohm, 5%, l/8W, Carbon
R803	EP14X284	10K ohm, 5%, l/8W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X225	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q502	EP15X89	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X48	PNP, Silicon
Q602	EP15X48	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%

TUNER CONTROL CIRCUIT BOARD

EP93X444

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X150	10µf, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi-Polar, Elect.
C511	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C600	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C601	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C602	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C603	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C604	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C605	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C606	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C607	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C608	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C609	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1µf, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C621	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C622	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C623	EP31X150	10µf, 20%, 50V, Elect.
C624	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C625	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C626	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C627	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	Common	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/8W, Carbon
R501	ES14X62	l.5K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	EP14X284	1K ohm, 5%, l/8W, Carbon
R512	ES14X62	l.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	Common	200K ohm, 5%, l/8W, Carbon
R520	EP14X212	82 ohm, 5%, l/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, l/8W, Carbon
R602	EP14X271	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	Common	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X104	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	Common	1.2K ohm, 5%, l/8W, Carbon
R614	Common	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X193	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X104	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/8W, Carbon
R638	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R639	EP14X303	220K ohm, 5%, l/8W, Carbon
R641	EP14X271	33K ohm, 5%, l/8W, Carbon
R642	EP14X133	470K ohm, 5%, l/8W, Carbon
R643	EP14X284	10K ohm, 5%, l/8W, Carbon

R644	ES14X70	100 ohm, 5%, I/8W, Carbon
R645	EP14X271	33K ohm, 5%, I/8W, Carbon
R648	Common	30K ohm, 5%, I/8W, Carbon
R649	EP14X284	1K ohm, 5%, I/8W, Carbon
R650	EP14X238	620 ohm, 5%, I/8W, Carbon
R651	EP14X238	620 ohm, 5%, I/8W, Carbon
R652	EP14X238	620 ohm, 5%, I/8W, Carbon
R653	EP14X238	620 ohm, 5%, I/8W, Carbon
R654	EP14X238	620 ohm, 5%, I/8W, Carbon
R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon
R663	EP14X238	620 ohm, 5%, I/8W, Carbon
R664	EP14X284	10K ohm, 5%, I/8W, Carbon
R665	EP14X284	10K ohm, 5%, I/8W, Carbon
R666	EP14X284	10K ohm, 5%, I/8W, Carbon
R667	EP14X193	47K ohm, 5%, I/8W, Carbon
R668	EP14X193	47K ohm, 5%, I/8W, Carbon
R669	EP14X104	22K ohm, 5%, I/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, I/8W, Carbon
R671	EP14X103	10K ohm, 5%, I/8W, Carbon
R672	EP14X103	10K ohm, 5%, I/8W, Carbon
R673	EP14X103	10K ohm, 5%, I/8W, Carbon
R674	EP14X103	10K ohm, 5%, I/8W, Carbon
R675	EP14X103	10K ohm, 5%, I/8W, Carbon
R676	EP14X103	10K ohm, 5%, I/8W, Carbon
R677	EP14X288	30K ohm, 5%, I/8W, Carbon
R678	EP14X285	15K ohm, 5%, I/8W, Carbon
R679	EP14X285	15K ohm, 5%, I/8W, Carbon
R680	EP14X285	15K ohm, 5%, I/8W, Carbon
R681	EP14X285	15K ohm, 5%, I/8W, Carbon
R682	EP14X285	15K ohm, 5%, I/8W, Carbon
R683	EP14X285	15K ohm, 5%, I/8W, Carbon
R685	EP14X303	470 ohm, 5%, I/8W, Carbon
R687	Common	36K ohm, 5%, I/4W, Carbon
R688	EP14X103	10K ohm, 5%, I/8W, Carbon
R689	EP14X284	10K ohm, 5%, I/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, I/8W, Carbon
R691	ES14X70	100 ohm, 5%, I/8W, Carbon
R692	EP14X193	47K ohm, 5%, I/8W, Carbon
R693	Common	220 ohm, 5%, I/8W, Carbon
R694	ES14X70	100 ohm, 5%, I/8W, Carbon
R697	EP14X193	47K ohm, 5%, I/8W, Carbon
R800	EP14X284	10K ohm, 5%, I/8W, Carbon
R801	EP14X284	10K ohm, 5%, I/8W, Carbon
R802	EP14X284	10K ohm, 5%, I/8W, Carbon
R803	EP14X284	10K ohm, 5%, I/8W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X225	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Locckout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	7.5V, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%

TUNER CONTROL CIRCUIT BOARD

EP93X445

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47μf, 20%, 50V, Elect.
C101	EP31X162	100μf, 20%, 25V, Elect.
C102	EP31X163	47μf, 20%, 25V, Elect.
C103	EP31X150	10μf, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01μf, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01μf, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047μf, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01μf, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1μf, 20%, 50V, Bi-Polar, Elect.
C511	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01μf, 10%, 50V, Polyester
C600	EP18X262	.01μf, 10%, 50V, SHiK, Cer. Disc
C601	EP18X262	.01μf, 10%, 50V, SHiK, Cer. Disc
C602	EP18X262	.01μf, 10%, 50V, SHiK, Cer. Disc
C603	EP18X262	.01μf, 10%, 50V, SHiK, Cer. Disc
C604	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C605	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C606	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C607	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C608	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C609	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1μf, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C621	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C622	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C623	EP31X150	10μf, 20%, 50V, Elect.
C624	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C625	EP18X262	.01μf, 10%, 50V, SHiK, Cer. Disc
C626	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C627	EP18X206	.022μf, +80-20%, 50V, HiK, Cer Disc
C629	EP31X173	2.2μf, 20%, 50V, Elect.
C650	EP31X149	10μf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	Common	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/8W, Carbon
R501	ES14X62	l.5K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	EP14X284	1K ohm, 5%, l/8W, Carbon
R512	ES14X62	l.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	Common	200K ohm, 5%, l/8W, Carbon
R520	EP14X212	82 ohm, 5%, l/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, l/8W, Carbon
R602	EP14X271	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	Common	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X104	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	Common	1.2K ohm, 5%, l/8W, Carbon
R614	Common	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X193	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X104	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/8W, Carbon
R638	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R639	EP14X303	220K ohm, 5%, l/8W, Carbon

R641	EP14X271	33K ohm, 5%, I/8W, Carbon
R642	EP14X133	470K ohm, 5%, I/8W, Carbon
R643	EP14X284	10K ohm, 5%, I/8W, Carbon
R644	ES14X70	100 ohm, 5%, I/8W, Carbon
R645	EP14X271	33K ohm, 5%, I/8W, Carbon
R648	Common	30K ohm, 5%, I/8W, Carbon
R649	ES14X71	1K ohm, 5%, I/8W, Carbon
R650	EP14X238	620 ohm, 5%, I/8W, Carbon
R651	EP14X238	620 ohm, 5%, I/8W, Carbon
R652	EP14X238	620 ohm. 5%, I/8W, Carbon
R653	EP14X238	620 ohm, 5%, I/8W, Carbon
R654	EP14X238	620 ohm, 5%, I/8W, Carbon
R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon
R663	EP14X238	620 ohm, 5%, I/8W, Carbon
R664	EP14X284	10K ohm, 5%, I/8W, Carbon
R665	EP14X284	10K ohm, 5%, I/8W, Carbon
R666	EP14X284	10K ohm, 5%, I/8W, Carbon
R667	EP14X193	47K ohm, 5%, I/8W, Carbon
R668	EP14X193	47K ohm, 5%, I/8W, Carbon
R669	EP14X104	22K ohm, 5%, I/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, I/8W, Carbon
R671	EP14X103	10K ohm, 5%, I/8W, Carbon
R672	EP14X103	10K ohm, 5%, I/8W, Carbon
R673	EP14X103	10K ohm, 5%. I/8W, Carbon
R674	EP14X103	10K ohm, 5%, I/8W, Carbon
R675	EP14X103	10K ohm, 5%, I/8W, Carbon
R676	EP14X103	10K ohm, 5%, I/8W, Carbon
R677	Common	43K ohm, 5%, I/8W, Carbon
R678	EP14X285	15K ohm, 5%, I/8W, Carbon
R679	EP14X285	15K ohm, 5%, I/8W, Carbon
R680	EP14X285	15K ohm, 5%, I/8W, Carbon
R681	EP14X285	15K ohm, 5%, I/8W, Carbon
R682	EP14X285	15K ohm, 5%, I/8W, Carbon
R683	EP14X285	15K ohm, 5%, I/8W, Carbon
R685	EP14X303	470 ohm, 5%, I/8W, Carbon
R687	EP14X104	22K ohm, 5%, I/4W, Carbon
R688	EP14X103	10K ohm, 5%, I/8W, Carbon
R689	EP14X284	10K ohm, 5%, I/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, I/8W, Carbon
R691	ES14X70	100 ohm, 5%, I/8W, Carbon
R692	EP14X193	47K ohm, 5%, I/8W, Carbon
R693	Common	220 ohm, 5%, I/8W, Carbon
R694	ES14X70	100 ohm, 5%, I/8W, Carbon
R697	EP14X193	47K ohm, 5%, I/8W, Carbon
R800	EP14X284	10K ohm, 5%, I/8W, Carbon
R801	EP14X284	10K ohm, 5%, I/8W, Carbon
R802	EP14X284	10K ohm, 5%, I/8W, Carbon
R803	EP14X284	10K ohm, 5%, I/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X223	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Locckout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	7.5V, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15µh, 10%
L501	EP36X136	CHOKE-15µh, 10%
L502	EP36X136	CHOKE-15µh, 10%

TUNER CONTROL CIRCUIT BOARD

EP93X446

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	ES31X31	47µf, 20%, 16V, Elect.
C103	EP31X150	10µf, 20%, 50V, Elect.
C500	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1µf, 20%, 25V, Bi-Polar, Elect.
C511	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C600	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C601	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C602	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C603	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C604	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C605	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C606	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C607	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C608	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C609	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C612	EP18X187	27pf, 10%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C621	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C622	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C623	EP31X149	10µf, 20%, 35V, Elect.
C624	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C625	EP18X262	.01µf, 10%, 50V, SHiK, Cer Disc
C626	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C627	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C628	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	270 ohm, 5%, l/8W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	ES14X70	100 ohm, 5%, l/8W, Carbon
R106	Common	39 ohm, 5%, l/8W, Carbon
R107	Common	62 ohm, 5%, l/8W, Carbon
R500	EP14X284	1K ohm, 5%, l/8W, Carbon
R501	ES14X62	l.5K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	EP14X284	1K ohm, 5%, l/8W, Carbon
R512	ES14X62	l.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	Common	200K ohm, 5%, l/8W, Carbon
R520	EP14X212	82 ohm, 5%, l/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, l/8W, Carbon
R602	EP14X271	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	Common	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X303	22K ohm, 5%, l/8W, Carbon
R609	EP14X303	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	Common	1.2K ohm, 5%, l/8W, Carbon
R614	Common	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X193	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X303	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R648	Common	30K ohm, 5%, l/8W, Carbon
R649	ES14X71	1K ohm, 5%, l/8W, Carbon
R650	EP14X238	620 ohm, 5%, l/8W, Carbon
R651	EP14X238	620 ohm, 5%, l/8W, Carbon

R652	EP14X238	620 ohm, 5%, l/8W, Carbon
R653	EP14X238	620 ohm, 5%, l/8W, Carbon
R654	EP14X238	620 ohm, 5%, l/8W, Carbon
R655	EP14X238	620 ohm, 5%, l/8W, Carbon
R656	EP14X238	620 ohm, 5%, l/8W, Carbon
R657	EP14X238	620 ohm, 5%, l/8W, Carbon
R658	EP14X238	620 ohm, 5%, l/8W, Carbon
R659	EP14X238	620 ohm, 5%, l/8W, Carbon
R660	EP14X238	620 ohm, 5%, l/8W, Carbon
R661	EP14X238	620 ohm, 5%, l/8W, Carbon
R662	EP14X238	620 ohm, 5%, l/8W, Carbon
R663	EP14X238	620 ohm, 5%, l/8W, Carbon
R664	EP14X284	10K ohm, 5%, l/8W, Carbon
R665	EP14X284	10K ohm, 5%, l/8W, Carbon
R666	EP14X284	10K ohm, 5%, l/8W, Carbon
R667	EP14X193	47K ohm, 5%, l/8W, Carbon
R668	EP14X193	47K ohm, 5%, l/8W, Carbon
R669	EP14X303	22K ohm, 5%, l/8W, Carbon
R670	EP14X193	47K ohm, 5%, l/8W, Carbon
R671	EP14X103	10K ohm, 5%, l/8W, Carbon
R672	EP14X103	10K ohm, 5%, l/8W, Carbon
R673	EP14X103	10K ohm, 5%, l/8W, Carbon
R674	EP14X103	10K ohm, 5%, l/8W, Carbon
R675	EP14X103	10K ohm, 5%, l/8W, Carbon
R676	EP14X103	10K ohm, 5%, l/8W, Carbon
R677	Common	43K ohm, 5%, l/8W, Carbon
R678	EP14X285	15K ohm, 5%, l/8W, Carbon
R679	EP14X285	15K ohm, 5%, l/8W, Carbon
R680	EP14X285	15K ohm, 5%, l/8W, Carbon
R681	EP14X285	15K ohm, 5%, l/8W, Carbon
R682	EP14X285	15K ohm, 5%, l/8W, Carbon
R683	EP14X285	15K ohm, 5%, l/8W, Carbon
R692	EP14X193	47K ohm, 5%, l/8W, Carbon
R695	EP14X303	22K ohm, 5%, l/8W, Carbon
R696	EP14X284	10K ohm, 5%, l/8W, Carbon
R697	EP14X193	47K ohm, 5%, l/8W, Carbon
R800	EP14X284	10K ohm, 5%, l/8W, Carbon
R801	EP14X284	10K ohm, 5%, l/8W, Carbon

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X226	Control Microprocessor

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q502	EP15X109	Loop Filter Amp, NPN, Silicon
Q503	EP15X87	Loop Filter Amp, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q615	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	10 Volt, Zener
Y108	EP16X152	5 Volt, Zener
Y109	EP16X32	30 Volt, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	6.2 Volt, Zener
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	30 Volt, Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%

TUNER CONTROL CIRCUIT BOARD

EP93X449

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X150	10µf, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi-Polar, Elect.
C511	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C600	EP18X167	.047µf, +80-20%, 50V, HIK, Cer Disc
C601	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C602	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C603	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C604	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C605	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C606	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C607	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C608	EP18X167	.047µf, +80-20%, 50V, HIK, Cer Disc
C609	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1µf, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X167	.047µf, +80-20%, 50V, HiK, Cer.Disc
C621	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C622	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C623	EP31X150	10µf, 20%, 50V, Elect.
C624	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C625	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C626	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C627	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	Common	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/8W, Carbon
R501	ES14X62	l.5K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	EP14X284	1K ohm, 5%, l/8W, Carbon
R512	ES14X62	l.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	Common	200K ohm, 5%, l/8W, Carbon
R520	EP14X212	82 ohm, 5%, l/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, l/8W, Carbon
R602	EP14X271	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	Common	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X104	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	Common	1.2K ohm, 5%, l/8W, Carbon
R614	Common	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X193	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X104	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/8W, Carbon
R638	EP14X180	5.6K ohm, 5%, l/8W, Carbon

R639	EP14X303	220K ohm, 5%, I/8W, Carbon
R641	EP14X271	33K ohm, 5%, I/8W, Carbon
R642	EP14X133	470K ohm, 5%, I/8W, Carbon
R643	EP14X284	10K ohm, 5%, I/8W, Carbon
R644	ES14X70	100 ohm, 5%, I/8W, Carbon
R645	EP14X271	33K ohm, 5%, I/8W, Carbon
R648	Common	30K ohm, 5%, I/8W, Carbon
R649	EP14X193	47K ohm, 5%, I/8W, Carbon
R650	EP14X238	620 ohm, 5%, I/8W, Carbon
R651	EP14X238	620 ohm, 5%, I/8W, Carbon
R652	EP14X238	620 ohm, 5%, I/8W, Carbon
R653	EP14X238	620 ohm, 5%, I/8W, Carbon
R654	EP14X238	620 ohm, 5%, I/8W, Carbon
R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon
R663	EP14X238	620 ohm, 5%, I/8W, Carbon
R664	EP14X284	10K ohm, 5%, I/8W, Carbon
R665	EP14X284	10K ohm, 5%, I/8W, Carbon
R666	EP14X284	10K ohm, 5%, I/8W, Carbon
R667	EP14X193	47K ohm, 5%, I/8W, Carbon
R668	EP14X193	47K ohm, 5%, I/8W, Carbon
R669	EP14X104	22K ohm, 5%, I/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, I/8W, Carbon
R671	EP14X103	10K ohm, 5%, I/8W, Carbon
R672	EP14X103	10K ohm, 5%, I/8W, Carbon
R673	EP14X103	10K ohm, 5%, I/8W, Carbon
R674	EP14X103	10K ohm, 5%, I/8W, Carbon
R675	EP14X103	10K ohm, 5%, I/8W, Carbon
R676	EP14X103	10K ohm, 5%, I/8W, Carbon
R677	EP14X288	30K ohm, 5%, I/8W, Carbon
R678	EP14X285	15K ohm, 5%, I/8W, Carbon
R679	EP14X285	15K ohm, 5%, I/8W, Carbon
R680	EP14X285	15K ohm, 5%, I/8W, Carbon
R681	EP14X285	15K ohm, 5%, I/8W, Carbon
R682	EP14X285	15K ohm, 5%, I/8W, Carbon
R683	EP14X285	15K ohm, 5%, I/8W, Carbon
R685	EP14X303	470 ohm, 5%, I/8W, Carbon
R687	Common	36K ohm, 5%, I/4W, Carbon
R688	EP14X103	10K ohm, 5%, I/8W, Carbon
R689	EP14X284	10K ohm, 5%, I/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, I/8W, Carbon
R691	ES14X70	100 ohm, 5%, I/8W, Carbon
R692	EP14X193	47K ohm, 5%, I/8W, Carbon
R693	Common	220 ohm, 5%, I/8W, Carbon
R694	ES14X70	100 ohm, 5%, I/8W, Carbon
R697	EP14X193	47K ohm, 5%, I/8W, Carbon
R800	EP14X284	10K ohm, 5%, I/8W, Carbon
R801	EP14X284	10K ohm, 5%, I/8W, Carbon
R802	EP14X284	10K ohm, 5%, I/8W, Carbon
R803	EP14X284	10K ohm, 5%, I/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15µh, 10%
L501	EP36X136	CHOKE-15µh, 10%
L502	EP36X136	CHOKE-15µh, 10%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X225	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X89	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	7.5V, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener

TUNER CONTROL CIRCUIT BOARD

EP93X451

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X150	10µf, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047µf, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi-Polar, Elect.
C511	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C600	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C601	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C602	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C603	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C604	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C605	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C606	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C607	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C608	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C609	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1µf, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C621	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C622	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C623	EP31X150	10µf, 20%, 50V, Elect.
C624	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C625	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C626	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C627	EP18X206	.022µf, +80-20%, 50V, HiK, Cer Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	Common	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/8W, Carbon
R501	ES14X62	l.5K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	EP14X284	1K ohm, 5%, l/8W, Carbon
R512	ES14X62	l.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	Common	200K ohm, 5%, l/8W, Carbon
R520	EP14X212	82 ohm, 5%, l/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, l/8W, Carbon
R602	EP14X271	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	Common	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X104	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	Common	1.2K ohm, 5%, l/8W, Carbon
R614	Common	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X193	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X104	22K ohm, 5%, l/8W, Carbon

R636	EP14X193	47K ohm, 5%, I/8W, Carbon
R637	EP14X103	10K ohm, 5%, I/8W, Carbon
R638	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R639	EP14X303	220K ohm, 5%, I/8W, Carbon
R641	EP14X271	33K ohm, 5%, I/8W, Carbon
R642	EP14X133	470K ohm, 5%, I/8W, Carbon
R643	EP14X284	10K ohm, 5%, I/8W, Carbon
R644	ES14X70	100 ohm, 5%, I/8W, Carbon
R645	EP14X271	33K ohm, 5%, I/8W, Carbon
R648	Common	30K ohm, 5%, I/8W, Carbon
R649	ES14X71	1K ohm, 5%, I/8W, Carbon
R650	EP14X238	620 ohm, 5%, I/8W, Carbon
R651	EP14X238	620 ohm, 5%, I/8W, Carbon
R652	EP14X238	620 ohm, 5%, I/8W, Carbon
R653	EP14X238	620 ohm, 5%, I/8W, Carbon
R654	EP14X238	620 ohm, 5%, I/8W, Carbon
R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon
R663	EP14X238	620 ohm, 5%, I/8W, Carbon
R664	EP14X284	10K ohm, 5%, I/8W, Carbon
R665	EP14X284	10K ohm, 5%, I/8W, Carbon
R666	EP14X284	10K ohm, 5%, I/8W, Carbon
R667	EP14X193	47K ohm, 5%, I/8W, Carbon
R668	EP14X193	47K ohm, 5%, I/8W, Carbon
R669	EP14X104	22K ohm, 5%, I/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, I/8W, Carbon
R671	EP14X103	10K ohm, 5%, I/8W, Carbon
R672	EP14X103	10K ohm, 5%, I/8W, Carbon
R673	EP14X103	10K ohm, 5%, I/8W, Carbon
R674	EP14X103	10K ohm, 5%, I/8W, Carbon
R675	EP14X103	10K ohm, 5%, I/8W, Carbon
R676	EP14X103	10K ohm, 5%, I/8W, Carbon
R677	EP14X288	30K ohm, 5%, I/8W, Carbon
R678	EP14X285	15K ohm, 5%, I/8W, Carbon
R679	EP14X285	15K ohm, 5%, I/8W, Carbon
R680	EP14X285	15K ohm, 5%, I/8W, Carbon
R681	EP14X285	15K ohm, 5%, I/8W, Carbon
R682	EP14X285	15K ohm, 5%, I/8W, Carbon
R683	EP14X285	15K ohm, 5%, I/8W, Carbon
R685	EP14X303	470 ohm, 5%, I/8W, Carbon
R687	Common	36K ohm, 5%, I/4W, Carbon
R688	EP14X103	10K ohm, 5%, I/8W, Carbon
R689	EP14X284	10K ohm, 5%, I/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, I/8W, Carbon
R691	ES14X70	100 ohm, 5%, I/8W, Carbon
R692	EP14X193	47K ohm, 5%, I/8W, Carbon
R693	Common	220 ohm, 5%, I/8W, Carbon
R694	ES14X70	100 ohm, 5%, I/8W, Carbon
R697	EP14X193	47K ohm, 5%, I/8W, Carbon
R800	EP14X284	10K ohm, 5%, I/8W, Carbon
R801	EP14X284	10K ohm, 5%, I/8W, Carbon
R802	EP14X284	10K ohm, 5%, I/8W, Carbon
R803	EP14X284	10K ohm, 5%, I/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X231	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Locckout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	7.5V, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%

TUNER CONTROL CIRCUIT BOARD

EP93X464

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X47	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X149	10µf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047µf, 10%, 50V, Polyester
C509	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C600	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7µf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C620	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C621	EP31X166	1µf, 20%, 50V, Elect.
C622	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C623	EP31X149	10µf, 20%, 35V, Elect.
C624	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.
C689	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, lW, Metal Oxide
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	Common	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/8W, Carbon
R501	EP14X284	1K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R508	Common	4.3meg ohm, 5%, l/4W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	ES14X59	560 ohm, 5%, l/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	Common	200K ohm, 5%, l/8W, Carbon
R520	EP14X212	82 ohm, 5%, l/8W, Carbon
R601	Common	6.2K ohm, 5%, l/8W, Carbon
R602	EP14X271	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	Common	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X303	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	Common	1.2K ohm, 5%, l/8W, Carbon
R614	Common	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X125	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X303	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/8W, Carbon
R638	EP14X284	1K ohm, 5%, l/8W, Carbon
R639	EP14X303	100K ohm, 5%, l/8W, Carbon
R641	EP14X271	33K ohm, 5%, l/8W, Carbon
R641A	EP14X105	100K ohm, 5%, l/4W, Carbon
R642	EP14X133	470K ohm, 5%, l/8W, Carbon
R643	EP14X284	10K ohm, 5%, l/8W, Carbon
R644	ES14X70	100 ohm, 5%, l/8W, Carbon
R645	EP14X271	33K ohm, 5%, l/8W, Carbon

R648	Common	30K ohm, 5%, I/8W, Carbon
R649	ES14X71	1K ohm, 5%, I/8W, Carbon
R650	EP14X238	620 ohm, 5%, I/8W, Carbon
R651	EP14X238	620 ohm, 5%, I/8W, Carbon
R652	EP14X238	620 ohm, 5%, I/8W, Carbon
R653	EP14X238	620 ohm, 5%, I/8W, Carbon
R654	EP14X238	620 ohm, 5%, I/8W, Carbon
R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon
R663	EP14X238	620 ohm, 5%, I/8W, Carbon
R664	EP14X284	10K ohm, 5%, I/8W, Carbon
R665	EP14X284	10K ohm, 5%, I/8W, Carbon
R666	EP14X284	10K ohm, 5%, I/8W, Carbon
R667	EP14X125	47K ohm, 5%, I/8W, Carbon
R668	EP14X193	47K ohm, 5%, I/8W, Carbon
R669	EP14X303	22K ohm, 5%, I/8W, Carbon
R670	EP14X193	47K ohm, 5%, I/8W, Carbon
R671	EP14X103	10K ohm, 5%, I/8W, Carbon
R672	EP14X103	10K ohm, 5%, I/8W, Carbon
R673	EP14X103	10K ohm, 5%, I/8W, Carbon
R674	EP14X103	10K ohm, 5%, I/8W, Carbon
R675	EP14X103	10K ohm, 5%, I/8W, Carbon
R676	EP14X103	10K ohm, 5%, I/8W, Carbon
R677	EP14X288	30K ohm, 5%, I/8W, Carbon
R678	EP14X285	15K ohm, 5%, I/8W, Carbon
R679	EP14X285	15K ohm, 5%, I/8W, Carbon
R680	EP14X285	15K ohm, 5%, I/8W, Carbon
R681	EP14X285	15K ohm, 5%, I/8W, Carbon
R682	EP14X285	15K ohm, 5%, I/8W, Carbon
R683	EP14X285	15K ohm, 5%, I/8W, Carbon
R684	EP14X193	47K ohm, 5%, I/8W, Carbon
R685	EP14X303	470 ohm, 5%, I/8W, Carbon
R687	Common	36K ohm, 5%, I/4W, Carbon
R688	EP14X103	10K ohm, 5%, I/8W, Carbon
R689	EP14X284	10K ohm, 5%, I/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, I/8W, Carbon
R691	ES14X70	100 ohm, 5%, I/8W, Carbon
R692	EP14X193	47K ohm, 5%, I/8W, Carbon
R693	Common	220 ohm, 5%, I/8W, Carbon
R694	ES14X70	100 ohm, 5%, I/8W, Carbon
R697	EP14X193	47K ohm, 5%, I/8W, Carbon
R698	EP14X193	47K ohm, 5%, I/8W, Carbon
R800	EP14X284	10K ohm, 5%, I/8W, Carbon
R801	EP14X284	10K ohm, 5%, I/8W, Carbon
R802	EP14X284	10K ohm, 5%, I/8W, Carbon
R803	EP14X284	10K ohm, 5%, I/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X234	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X465

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X47	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X149	10µf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047µf, 10%, 50V, Polyester
C509	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C600	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7µf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C621	EP31X166	1µf, 20%, 50V, Elect.
C622	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C623	EP31X149	10µf, 20%, 35V, Elect.
C624	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.
C689	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, I/8W, Carbon
R102	ES14X58	470 ohm, 5%, I/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, IW, Carbon
R105	EP14X182	68 ohm, 5%, I/4W, Carbon
R106	Common	39 ohm, 5%, I/8W, Carbon
R202	EP14X284	10K ohm, 5%, I/8W, Carbon
R500	ES14X71	1K ohm, 5%, I/8W, Carbon
R501	EP14X284	1K ohm, 5%, I/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R503	EP14X284	1K ohm, 5%, I/8W, Carbon
R507	EP14X271	33K ohm, 5%, I/8W, Carbon
R508	Common	4.3meg ohm, 5%, I/4W, Carbon
R509	EP14X271	33K ohm, 5%, I/8W, Carbon
R511	ES14X59	560 ohm, 5%, I/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, I/8W, Carbon
R513	EP14X284	10K ohm, 5%, I/8W, Carbon
R514	EP14X284	10K ohm, 5%, I/8W, Carbon
R515	ES14X71	1K ohm, 5%, I/8W, Carbon
R516	ES14X70	100 ohm, 5%, I/8W, Carbon
R517	Common	200K ohm, 5%, I/8W, Carbon
R520	EP14X212	82 ohm, 5%, I/8W, Carbon
R601	Common	6.2K ohm, 5%, I/8W, Carbon
R602	Common	16K ohm, 5%, I/8W, Carbon
R603	EP14X284	10K ohm, 5%, I/8W, Carbon
R604	EP14X285	15K ohm, 5%, I/8W, Carbon
R605	Common	1.2K ohm, 5%, I/8W, Carbon
R606	EP14X285	15K ohm, 5%, I/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R608	EP14X303	22K ohm, 5%, I/8W, Carbon
R609	EP14X104	22K ohm, 5%, I/8W, Carbon
R610	EP14X303	100K ohm, 5%, I/8W, Carbon
R611	EP14X303	100K ohm, 5%, I/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R613	Common	1.2K ohm, 5%, I/8W, Carbon
R614	Common	1.2K ohm, 5%, I/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R618	EP14X284	10K ohm, 5%, I/8W, Carbon
R619	EP14X284	10K ohm, 5%, I/8W, Carbon
R620	EP14X284	10K ohm, 5%, I/8W, Carbon
R621	EP14X284	10K ohm, 5%, I/8W, Carbon
R622	EP14X284	10K ohm, 5%, I/8W, Carbon
R623	EP14X284	10K ohm, 5%, I/8W, Carbon
R624	EP14X193	47K ohm, 5%, I/8W, Carbon
R625	EP14X193	47K ohm, 5%, I/8W, Carbon
R626	EP14X193	47K ohm, 5%, I/8W, Carbon
R627	EP14X193	47K ohm, 5%, I/8W, Carbon
R628	EP14X193	47K ohm, 5%, I/8W, Carbon
R629	EP14X193	47K ohm, 5%, I/8W, Carbon
R630	EP14X125	47K ohm, 5%, I/8W, Carbon
R631	EP14X284	10K ohm, 5%, I/8W, Carbon
R632	EP14X285	15K ohm, 5%, I/8W, Carbon
R633	EP14X285	15K ohm, 5%, I/8W, Carbon
R635	EP14X303	22K ohm, 5%, I/8W, Carbon
R636	EP14X193	47K ohm, 5%, I/8W, Carbon
R637	EP14X103	10K ohm, 5%, I/8W, Carbon
R638	EP14X284	1K ohm, 5%, I/8W, Carbon
R639	EP14X303	100K ohm, 5%, I/8W, Carbon
R641	EP14X271	33K ohm, 5%, I/8W, Carbon
R642	EP14X133	470K ohm, 5%, I/8W, Carbon
R643	EP14X284	10K ohm, 5%, I/8W, Carbon
R644	ES14X70	100 ohm, 5%, I/8W, Carbon

R645	EP14X271	33K ohm, 5%, I/8W, Carbon
R648	Common	30K ohm, 5%, I/8W, Carbon
R649	ES14X71	1K ohm, 5%, I/8W, Carbon
R650	EP14X238	620 ohm, 5%, I/8W, Carbon
R651	EP14X238	620 ohm, 5%, I/8W, Carbon
R652	EP14X238	620 ohm, 5%, I/8W, Carbon
R653	EP14X238	620 ohm, 5%, I/8W, Carbon
R654	EP14X238	620 ohm, 5%, I/8W, Carbon
R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon
R663	EP14X238	620 ohm, 5%, I/8W, Carbon
R664	EP14X284	10K ohm, 5%, I/8W, Carbon
R665	EP14X284	10K ohm, 5%, I/8W, Carbon
R666	EP14X284	10K ohm, 5%, I/8W, Carbon
R667	EP14X125	47K ohm, 5%, I/8W, Carbon
R668	EP14X193	47K ohm, 5%, I/8W, Carbon.
R669	EP14X303	22K ohm, 5%, I/8W, Carbon
R670	EP14X193	47K ohm, 5%, I/8W, Carbon
R671	EP14X103	10K ohm, 5%, I/8W, Carbon
R672	EP14X103	10K ohm, 5%, I/8W, Carbon
R673	EP14X103	10K ohm, 5%, I/8W, Carbon
R674	EP14X103	10K ohm, 5%, I/8W, Carbon
R675	EP14X103	10K ohm, 5%, I/8W, Carbon
R676	EP14X103	10K ohm, 5%, I/8W, Carbon
R677	Common	43K ohm, 5%, I/8W, Carbon
R678	EP14X285	15K ohm, 5%, I/8W, Carbon
R679	EP14X285	15K ohm, 5%, I/8W, Carbon
R680	EP14X285	15K ohm, 5%, I/8W, Carbon
R681	EP14X285	15K ohm, 5%, I/8W, Carbon
R682	EP14X285	15K ohm, 5%, I/8W, Carbon
R683	EP14X285	15K ohm, 5%, I/8W, Carbon
R684	EP14X193	47K ohm, 5%, I/8W, Carbon
R685	EP14X303	470 ohm, 5%, I/8W, Carbon
R687	EP14X104	22K ohm, 5%, I/4W, Carbon
R688	EP14X103	10K ohm, 5%, I/8W, Carbon
R689	EP14X284	10K ohm, 5%, I/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, I/8W, Carbon
R691	ES14X70	100 ohm, 5%, I/8W, Carbon
R692	EP14X193	47K ohm, 5%, I/8W, Carbon
R693	Common	220 ohm, 5%, I/8W, Carbon
R694	ES14X70	100 ohm, 5%, I/8W, Carbon
R697	EP14X193	47K ohm, 5%, I/8W, Carbon
R698	EP14X193	47K ohm, 5%, I/8W, Carbon
R800	EP14X284	10K ohm, 5%, I/8W, Carbon
R801	EP14X284	10K ohm, 5%, I/8W, Carbon
R802	EP14X284	10K ohm, 5%, I/8W, Carbon
R803	EP14X284	10K ohm, 5%, I/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X235	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X466

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X47	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X149	10µf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01µf, 10%, 50V, HIK, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047µf, 10%, 50V, Polyester
C509	EP18X262	.01µf, 10%, 50V, HIK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C600	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01µf, 10%, 50V, HIK, Cer. Disc
C603	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7µf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C621	EP31X166	1µf, 20%, 50V, Elect.
C622	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C623	EP31X149	10µf, 20%, 35V, Elect.
C624	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, lW, Carbon
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	Common	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/8W, Carbon
R501	EP14X284	1K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R508	Common	4.3meg ohm, 5%, l/4W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	ES14X59	560 ohm, 5%, l/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	Common	200K ohm, 5%, l/8W, Carbon
R520	EP14X212	82 ohm, 5%, l/8W, Carbon
R601	Common	6.2K ohm, 5%, l/8W, Carbon
R602	EP14X271	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	Common	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X303	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	Common	1.2K ohm, 5%, l/8W, Carbon
R614	Common	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X125	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X303	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/8W, Carbon
R638	EP14X284	1K ohm, 5%, l/8W, Carbon
R639	EP14X303	220K ohm, 5%, l/8W, Carbon
R641	EP14X271	33K ohm, 5%, l/8W, Carbon
R642	EP14X133	470K ohm, 5%, l/8W, Carbon
R643	EP14X284	10K ohm, 5%, l/8W, Carbon
R644	ES14X70	100 ohm, 5%, l/8W, Carbon

R645	EP14X271	33K ohm, 5%, l/8W, Carbon
R648	Common	30K ohm, 5%, l/8W, Carbon
R649	ES14X71	1K ohm, 5%, l/8W, Carbon
R650	EP14X238	620 ohm, 5%, l/8W, Carbon
R651	EP14X238	620 ohm, 5%, l/8W, Carbon
R652	EP14X238	620 ohm, 5%, l/8W, Carbon
R653	EP14X238	620 ohm, 5%, l/8W, Carbon
R654	EP14X238	620 ohm, 5%, l/8W, Carbon
R655	EP14X238	620 ohm, 5%, l/8W, Carbon
R656	EP14X238	620 ohm, 5%, l/8W, Carbon
R657	EP14X238	620 ohm, 5%, l/8W, Carbon
R658	EP14X238	620 ohm, 5%, l/8W, Carbon
R659	EP14X238	620 ohm, 5%, l/8W, Carbon
R660	EP14X238	620 ohm, 5%, l/8W, Carbon
R661	EP14X238	620 ohm, 5%, l/8W, Carbon
R662	EP14X238	620 ohm, 5%, l/8W, Carbon
R663	EP14X238	620 ohm, 5%, l/8W, Carbon
R664	EP14X284	10K ohm, 5%, l/8W, Carbon
R665	EP14X284	10K ohm, 5%, l/8W, Carbon
R666	EP14X284	10K ohm, 5%, l/8W, Carbon
R667	EP14X125	47K ohm, 5%, l/8W, Carbon
R668	EP14X193	47K ohm, 5%, l/8W, Carbon
R669	EP14X303	22K ohm, 5%, l/8W, Carbon
R670	EP14X193	47K ohm, 5%, l/8W, Carbon
R671	EP14X103	10K ohm, 5%, l/8W, Carbon
R672	EP14X103	10K ohm, 5%, l/8W, Carbon
R673	EP14X103	10K ohm, 5%, l/8W, Carbon
R674	EP14X103	10K ohm, 5%, l/8W, Carbon
R675	EP14X103	10K ohm, 5%, l/8W, Carbon
R676	EP14X103	10K ohm, 5%, l/8W, Carbon
R677	Common	43K ohm, 5%, l/8W, Carbon
R678	EP14X285	15K ohm, 5%, l/8W, Carbon
R679	EP14X285	15K ohm, 5%, l/8W, Carbon
R680	EP14X285	15K ohm, 5%, l/8W, Carbon
R681	EP14X285	15K ohm, 5%, l/8W, Carbon
R682	EP14X285	15K ohm, 5%, l/8W, Carbon
R683	EP14X285	15K ohm, 5%, l/8W, Carbon
R684	EP14X193	47K ohm, 5%, l/8W, Carbon
R685	EP14X303	470 ohm, 5%, l/8W, Carbon
R687	EP14X104	22K ohm, 5%, l/4W, Carbon
R688	EP14X103	10K ohm, 5%, l/8W, Carbon
R689	EP14X284	10K ohm, 5%, l/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, l/8W, Carbon
R691	ES14X70	100 ohm, 5%, l/8W, Carbon
R692	EP14X193	47K ohm, 5%, l/8W, Carbon
R693	Common	220 ohm, 5%, l/8W, Carbon
R694	ES14X70	100 ohm, 5%, l/8W, Carbon
R696	EP14X103	10K ohm, 5%, l/8W, Carbon
R697	EP14X193	47K ohm, 5%, l/8W, Carbon
R698	EP14X193	47K ohm, 5%, l/8W, Carbon
R800	EP14X284	10K ohm, 5%, l/8W, Carbon
R801	EP14X284	10K ohm, 5%, l/8W, Carbon
R802	EP14X284	10K ohm, 5%, l/8W, Carbon
R803	EP14X284	10K ohm, 5%, l/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X236	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X467

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X47	47μf, 20%, 50V, Elect.
C101	EP31X162	100μf, 20%, 25V, Elect.
C102	EP31X163	47μf, 20%, 25V, Elect.
C103	EP31X149	10μf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047μf, 10%, 50V, Polyester
C509	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1μf, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01μf, 10%, 50V, Polyester
C600	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7μf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C621	EP31X166	1μf, 20%, 50V, Elect
C623	EP31X149	10μf, 20%, 35V, Elect.
C624	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2μf, 20%, 50V, Elect.
C650	EP31X149	10μf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, lW, Carbon
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	Common	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/8W, Carbon
R501	EP14X284	1K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R508	Common	4.3 meg ohm, 5%, l/4W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	ES14X59	560 ohm, 5%, l/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	Common	200K ohm, 5%, l/8W, Carbon
R520	EP14X212	82 ohm, 5%, l/8W, Carbon
R601	Common	6.2K ohm, 5%, l/8W, Carbon
R602	EP14X271	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	Common	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X303	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	Common	1.2K ohm, 5%, l/8W, Carbon
R614	Common	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X125	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X303	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/8W, Carbon
R638	EP14X284	1K ohm, 5%, l/8W, Carbon
R639	EP14X303	100K ohm, 5%, l/8W, Carbon
R641	EP14X271	33K ohm, 5%, l/8W, Carbon
R642	EP14X133	470K ohm, 5%, l/8W, Carbon
R643	EP14X284	10K ohm, 5%, l/8W, Carbon
R644	ES14X70	100 ohm, 5%, l/8W, Carbon
R645	EP14X271	33K ohm, 5%, l/8W, Carbon
R648	Common	30K ohm, 5%, l/8W, Carbon
R649	ES14X71	1K ohm, 5%, l/8W, Carbon
R650	EP14X238	620 ohm, 5%, l/8W, Carbon
R651	EP14X238	620 ohm, 5%, l/8W, Carbon
R652	EP14X238	620 ohm, 5%, l/8W, Carbon
R653	EP14X238	620 ohm, 5%, l/8W, Carbon
R654	EP14X238	620 ohm, 5%, l/8W, Carbon

R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon
R663	EP14X238	620 ohm, 5%, I/8W, Carbon
R664	EP14X284	10K ohm, 5%, I/8W, Carbon
R665	EP14X284	10K ohm, 5%, I/8W, Carbon
R666	EP14X284	10K ohm, 5%, I/8W, Carbon
R667	EP14X125	47K ohm, 5%, I/8W, Carbon
R668	EP14X193	47K ohm, 5%, I/8W, Carbon
R669	EP14X303	22K ohm, 5%, I/8W, Carbon
R670	EP14X193	47K ohm, 5%, I/8W, Carbon
R671	EP14X103	10K ohm, 5%, I/8W, Carbon
R672	EP14X103	10K ohm, 5%, I/8W, Carbon
R673	EP14X103	10K ohm, 5%, I/8W, Carbon
R674	EP14X103	10K ohm, 5%, I/8W, Carbon
R675	EP14X103	10K ohm, 5%, I/8W, Carbon
R676	EP14X103	10K ohm, 5%, I/8W, Carbon
R677	Common	43K ohm, 5%, I/8W, Carbon
R678	EP14X285	15K ohm, 5%, I/8W, Carbon
R679	EP14X285	15K ohm, 5%, I/8W, Carbon
R680	EP14X285	15K ohm, 5%, I/8W, Carbon
R681	EP14X285	15K ohm, 5%, I/8W, Carbon
R682	EP14X285	15K ohm, 5%, I/8W, Carbon
R683	EP14X285	15K ohm, 5%, I/8W, Carbon
R684	EP14X193	47K ohm, 5%, I/8W, Carbon
R685	EP14X303	470 ohm, 5%, I/8W, Carbon
R688	EP14X103	10K ohm, 5%, I/8W, Carbon
R689	EP14X284	10K ohm, 5%, I/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, I/8W, Carbon
R691	ES14X70	100 ohm, 5%, I/8W, Carbon
R692	EP14X193	47K ohm, 5%, I/8W, Carbon
R693	Common	220 ohm, 5%, I/8W, Carbon
R694	ES14X70	100 ohm, 5%, I/8W, Carbon
R696	EP14X103	10K ohm, 5%, I/8W, Carbon
R697	EP14X193	47K ohm, 5%, I/8W, Carbon
R698	EP14X193	47K ohm, 5%, I/8W, Carbon
R800	EP14X284	10K ohm, 5%, I/8W, Carbon
R801	EP14X284	10K ohm, 5%, I/8W, Carbon
R802	EP14X284	10K ohm, 5%, I/8W, Carbon
R803	EP14X284	10K ohm, 5%, I/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X237	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X469

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X47	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X149	10µf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047µf, 10%, 50V, Polyester
C509	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C600	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01µf, 10%, 50V, HIK, Cer. Disc
C603	EP18X262	.01µf, 10%, 50V, HIK, Cer. Disc
C604	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7µf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C621	EP31X166	1µf, 20%, 50V, Elect.
C622	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C623	EP31X149	10µf, 20%, 35V, Elect.
C624	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, lW, Carbon
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	Common	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/8W, Carbon
R501	EP14X284	1K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R508	Common	4.3meg ohm, 5%, l/4W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	ES14X59	560 ohm, 5%, l/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	Common	200K ohm, 5%, l/8W, Carbon
R520	EP14X212	82 ohm, 5%, l/8W, Carbon
R601	Common	6.2K ohm, 5%, l/8W, Carbon
R602	EP14X271	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	Common	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X303	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	Common	1.2K ohm, 5%, l/8W, Carbon
R614	Common	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X125	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X303	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/8W, Carbon
R638	EP14X284	1K ohm, 5%, l/8W, Carbon
R639	EP14X303	220K ohm, 5%, l/8W, Carbon
R641	EP14X271	33K ohm, 5%, l/8W, Carbon
R642	EP14X133	470K ohm, 5%, l/8W, Carbon
R643	EP14X284	10K ohm, 5%, l/8W, Carbon
R644	ES14X70	100 ohm, 5%, l/8W, Carbon
R645	EP14X271	33K ohm, 5%, l/8W, Carbon
R648	Common	30K ohm, 5%, l/8W, Carbon

R649	ES14X71	1K ohm, 5%, l/8W, Carbon
R650	EP14X238	620 ohm, 5%, l/8W, Carbon
R651	EP14X238	620 ohm, 5%, l/8W, Carbon
R652	EP14X238	620 ohm, 5%, l/8W, Carbon
R653	EP14X238	620 ohm, 5%, l/8W, Carbon
R654	EP14X238	620 ohm, 5%, l/8W, Carbon
R655	EP14X238	620 ohm, 5%, l/8W, Carbon
R656	EP14X238	620 ohm, 5%, l/8W, Carbon
R657	EP14X238	620 ohm, 5%, l/8W, Carbon
R658	EP14X238	620 ohm, 5%, l/8W, Carbon
R659	EP14X238	620 ohm, 5%, l/8W, Carbon
R660	EP14X238	620 ohm, 5%, l/8W, Carbon
R661	EP14X238	620 ohm, 5%, l/8W, Carbon
R662	EP14X238	620 ohm, 5%, l/8W, Carbon
R663	EP14X238	620 ohm, 5%, l/8W, Carbon
R664	EP14X284	10K ohm, 5%, l/8W, Carbon
R665	EP14X284	10K ohm, 5%, l/8W, Carbon
R666	EP14X284	10K ohm, 5%, l/8W, Carbon
R667	EP14X125	47K ohm, 5%, l/8W, Carbon
R668	EP14X193	47K ohm, 5%, l/8W, Carbon
R669	EP14X303	22K ohm, 5%, l/8W, Carbon
R670	EP14X193	47K ohm, 5%, l/8W, Carbon
R671	EP14X103	10K ohm, 5%, l/8W, Carbon
R672	EP14X103	10K ohm, 5%, l/8W, Carbon
R673	EP14X103	10K ohm, 5%, l/8W, Carbon
R674	EP14X103	10K ohm, 5%, l/8W, Carbon
R675	EP14X103	10K ohm, 5%, l/8W, Carbon
R676	EP14X103	10K ohm, 5%, l/8W, Carbon
R677	Common	43K ohm, 5%, l/8W, Carbon
R678	EP14X285	15K ohm, 5%, l/8W, Carbon
R679	EP14X285	15K ohm, 5%, l/8W, Carbon
R680	EP14X285	15K ohm, 5%, l/8W, Carbon
R681	EP14X285	15K ohm, 5%, l/8W, Carbon
R682	EP14X285	15K ohm, 5%, l/8W, Carbon
R683	EP14X285	15K ohm, 5%, l/8W, Carbon
R684	EP14X193	47K ohm, 5%, l/8W, Carbon
R685	EP14X303	470 ohm, 5%, l/8W, Carbon
R687	EP14X104	22K ohm, 5%, l/4W, Carbon
R688	EP14X103	10K ohm, 5%, l/8W, Carbon
R689	EP14X284	10K ohm, 5%, l/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, l/8W, Carbon
R691	ES14X70	100 ohm, 5%, l/8W, Carbon
R692	EP14X193	47K ohm, 5%, l/8W, Carbon
R693	Common	220 ohm, 5%, l/8W, Carbon
R694	ES14X70	100 ohm, 5%, l/8W, Carbon
R696	EP14X103	10K ohm, 5%, l/8W, Carbon
R697	EP14X193	47K ohm, 5%, l/8W, Carbon
R698	EP14X193	47K ohm, 5%, l/8W, Carbon
R800	EP14X284	10K ohm, 5%, l/8W, Carbon
R801	EP14X284	10K ohm, 5%, l/8W, Carbon
R802	EP14X284	10K ohm, 5%, l/8W, Carbon
R803	EP14X284	10K ohm, 5%, l/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X236	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X470

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X150	10µf, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C106	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047µf, 10%, 50V, Polyester
C509	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi-Polar, Elect.
C511	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C600	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C601	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C602	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C605	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C606	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C607	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C608	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C609	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7µf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C621	EP31X166	1µf, 20%, 50V, Elect.
C622	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C623	EP31X149	10µf, 20%, 35V, Elect.
C624	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C625	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C626	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C627	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.
C689	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, I/8W, Carbon
R102	ES14X58	470 ohm, 5%, I/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, IW, Carbon
R105	EP14X182	68 ohm, 5%, I/4W, Carbon
R106	Common	39 ohm, 5%, I/8W, Carbon
R202	EP14X284	10K ohm, 5%, I/8W, Carbon
R500	ES14X71	1K ohm, 5%, I/8W, Carbon
R501	EP14X284	1K ohm, 5%, I/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R503	EP14X284	1K ohm, 5%, I/8W, Carbon
R507	EP14X271	33K ohm, 5%, I/8W, Carbon
R508	Common	4.3 Meg ohm, 5%, I/4W, Carbon
R509	EP14X271	33K ohm, 5%, I/8W, Carbon
R511	ES14X59	560 ohm, 5%, I/8W, Carbon
R512	EP14X62	1.5K ohm, 5%, I/8W, Carbon
R513	EP14X284	10K ohm, 5%, I/8W, Carbon
R514	EP14X284	10K ohm, 5%, I/8W, Carbon
R515	ES14X71	1K ohm, 5%, I/8W, Carbon
R516	ES14X70	100 ohm, 5%, I/8W, Carbon
R517	Common	200K ohm, 5%, I/8W, Carbon
R520	EP14X212	82 ohm, 5%, I/8W, Carbon
R601	Common	6.2K ohm, 5%, I/8W, Carbon
R602	EP14X284	16K ohm, 5%, I/8W, Carbon
R603	EP14X284	10K ohm, 5%, I/8W, Carbon
R604	EP14X285	15K ohm, 5%, I/8W, Carbon
R605	Common	1.2K ohm, 5%, I/8W, Carbon
R606	EP14X285	15K ohm, 5%, I/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R608	EP14X303	22K ohm, 5%, I/8W, Carbon
R609	EP14X104	22K ohm, 5%, I/8W, Carbon
R610	EP14X303	100K ohm, 5%, I/8W, Carbon
R611	EP14X303	100K ohm, 5%, I/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R613	Common	1.2K ohm, 5%, I/8W, Carbon
R614	Common	1.2K ohm, 5%, I/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R618	EP14X284	10K ohm, 5%, I/8W, Carbon
R619	EP14X284	10K ohm, 5%, I/8W, Carbon
R620	EP14X284	10K ohm, 5%, I/8W, Carbon
R621	EP14X284	10K ohm, 5%, I/8W, Carbon
R622	EP14X284	10K ohm, 5%, I/8W, Carbon
R623	EP14X284	10K ohm, 5%, I/8W, Carbon
R624	EP14X193	47K ohm, 5%, I/8W, Carbon
R625	EP14X193	47K ohm, 5%, I/8W, Carbon
R626	EP14X193	47K ohm, 5%, I/8W, Carbon
R627	EP14X193	47K ohm, 5%, I/8W, Carbon
R628	EP14X193	47K ohm, 5%, I/8W, Carbon
R629	EP14X193	47K ohm, 5%, I/8W, Carbon
R630	EP14X125	47K ohm, 5%, I/8W, Carbon
R631	EP14X284	10K ohm, 5%, I/8W, Carbon
R632	EP14X285	15K ohm, 5%, I/8W, Carbon
R633	EP14X285	15K ohm, 5%, I/8W, Carbon
R635	EP14X303	22K ohm, 5%, I/8W, Carbon
R636	EP14X193	47K ohm, 5%, I/8W, Carbon
R637	EP14X103	10K ohm, 5%, I/8W, Carbon

R638	EP14X284	1K ohm, 5%, I/8W, Carbon
R639	EP14X303	220K ohm, 5%, I/8W, Carbon
R641	EP14X271	33K ohm, 5%, I/8W, Carbon
R642	EP14X133	470K ohm, 5%, I/8W, Carbon
R643	EP14X284	10K ohm, 5%, I/8W, Carbon
R644	ES14X70	100 ohm, 5%, I/8W, Carbon
R645	EP14X271	33K ohm, 5%, I/8W, Carbon
R648	Common	30K ohm, 5%, I/8W, Carbon
R649	ES14X71	1K ohm, 5%, I/8W, Carbon
R650	EP14X238	620 ohm, 5%, I/8W, Carbon
R651	EP14X238	620 ohm, 5%, I/8W, Carbon
R652	EP14X238	620 ohm, 5%, I/8W, Carbon
R653	EP14X238	620 ohm, 5%, I/8W, Carbon
R654	EP14X238	620 ohm, 5%, I/8W, Carbon
R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon
R663	EP14X238	620 ohm, 5%, I/8W, Carbon
R664	EP14X284	10K ohm, 5%, I/8W, Carbon
R665	EP14X284	10K ohm, 5%, I/8W, Carbon
R666	EP14X284	10K ohm, 5%, I/8W, Carbon
R667	EP14X125	47K ohm, 5%, I/8W, Carbon
R668	EP14X193	47K ohm, 5%, I/8W, Carbon
R669	EP14X303	22K ohm, 5%, I/8W, Carbon
R670	EP14X193	47K ohm, 5%, I/8W, Carbon
R671	EP14X103	10K ohm, 5%, I/8W, Carbon
R672	EP14X103	10K ohm, 5%, I/8W, Carbon
R673	EP14X103	10K ohm, 5%, I/8W, Carbon
R674	EP14X103	10K ohm, 5%, I/8W, Carbon
R675	EP14X103	10K ohm, 5%, I/8W, Carbon
R676	EP14X103	10K ohm, 5%, I/8W, Carbon
R677	Common	43K ohm, 5%, I/8W, Carbon
R678	EP14X285	15K ohm, 5%, I/8W, Carbon
R679	EP14X285	15K ohm, 5%, I/8W, Carbon
R680	EP14X285	15K ohm, 5%, I/8W, Carbon
R681	EP14X285	15K ohm, 5%, I/8W, Carbon
R682	EP14X285	15K ohm, 5%, I/8W, Carbon
R683	EP14X285	15K ohm, 5%, I/8W, Carbon
R684	EP14X193	47K ohm, 5%, I/8W, Carbon
R685	EP14X303	470 ohm, 5%, I/8W, Carbon
R687	EP14X104	22K ohm, 5%, I/4W, Carbon
R688	EP14X103	10K ohm, 5%, I/8W, Carbon
R689	EP14X284	10K ohm, 5%, I/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, I/8W, Carbon
R691	ES14X70	100 ohm, 5%, I/8W, Carbon
R692	EP14X193	47K ohm, 5%, I/8W, Carbon
R693	Common	220 ohm, 5%, I/8W, Carbon
R694	ES14X70	100 ohm, 5%, I/8W, Carbon
R697	EP14X193	47K ohm, 5%, I/8W, Carbon
R698	EP14X193	47K ohm, 5%, I/8W, Carbon
R800	EP14X284	10K ohm, 5%, I/8W, Carbon
R801	EP14X284	10K ohm, 5%, I/8W, Carbon
R802	EP14X284	10K ohm, 5%, I/8W, Carbon
R803	EP14X284	10K ohm, 5%, I/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X235	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Standby Power, NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	Standby Power, NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15µh, 10%
L501	EP36X136	CHOKE-15µh, 10%
L502	EP36X136	CHOKE-15µh, 10%
X500	EP41X68	CRYSTAL-Filter

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X473

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X149	10µf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C106	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047µf, 10%, 50V, Polyester
C509	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi-Polar, Elect.
C511	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C600	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C601	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C602	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C605	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C606	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C607	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C608	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C609	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7µf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022µf, +80-20%, 50V HiK Cer. Disc
C621	EP31X166	1µf, 20%, 50V, Elect.
C622	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C623	EP31X149	10µf, 20%, 35V, Elect.
C624	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C625	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C626	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C627	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, lW, Carbon
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	Common	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/8W, Carbon
R501	EP14X284	1K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R508	Common	4.3 Meg ohm, 5%, l/4W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	ES14X59	560 ohm, 5%, l/8W, Carbon
R512	EP14X62	1.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	Common	200K ohm, 5%, l/8W, Carbon
R520	EP14X212	82 ohm, 5%, l/8W, Carbon
R601	Common	6.8K ohm, 5%, l/8W, Carbon
R602	Common	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	Common	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X303	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	Common	1.2K ohm, 5%, l/8W, Carbon
R614	Common	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X125	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X303	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/8W, Carbon

R638	EP14X284	1K ohm, 5%, I/8W, Carbon
R639	EP14X303	220K ohm, 5%, I/8W, Carbon
R641	EP14X271	33K ohm, 5%, I/8W, Carbon
R642	EP14X133	470K ohm, 5%, I/8W, Carbon
R643	EP14X284	10K ohm, 5%, I/8W, Carbon
R644	ES14X70	100 ohm, 5%, I/8W, Carbon
R645	EP14X271	33K ohm, 5%, I/8W, Carbon
R648	Common	30K ohm, 5%, I/8W, Carbon
R649	ES14X71	1K ohm, 5%, I/8W, Carbon
R650	EP14X238	620 ohm, 5%, I/8W, Carbon
R651	EP14X238	620 ohm, 5%, I/8W, Carbon
R652	EP14X238	620 ohm, 5%, I/8W, Carbon
R653	EP14X238	620 ohm, 5%, I/8W, Carbon
R654	EP14X238	620 ohm, 5%, I/8W, Carbon
R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon
R663	EP14X238	620 ohm, 5%, I/8W, Carbon
R664	EP14X284	10K ohm, 5%, I/8W, Carbon
R665	EP14X284	10K ohm, 5%, I/8W, Carbon
R666	EP14X284	10K ohm, 5%, I/8W, Carbon
R667	EP14X125	47K ohm, 5%, I/8W, Carbon
R668	EP14X193	47K ohm, 5%, I/8W, Carbon
R669	EP14X303	22K ohm, 5%, I/8W, Carbon
R670	EP14X193	47K ohm, 5%, I/8W, Carbon
R671	EP14X103	10K ohm, 5%, I/8W, Carbon
R672	EP14X103	10K ohm, 5%, I/8W, Carbon
R673	EP14X103	10K ohm, 5%, I/8W, Carbon
R674	EP14X103	10K ohm, 5%, I/8W, Carbon
R675	EP14X103	10K ohm, 5%, I/8W, Carbon
R676	EP14X103	10K ohm, 5%, I/8W, Carbon
R677	Common	43K ohm, 5%, I/8W, Carbon
R678	EP14X285	15K ohm, 5%, I/8W, Carbon
R679	EP14X285	15K ohm, 5%, I/8W, Carbon
R680	EP14X285	15K ohm, 5%, I/8W, Carbon
R681	EP14X285	15K ohm, 5%, I/8W, Carbon
R682	EP14X285	15K ohm, 5%, I/8W, Carbon
R683	EP14X285	15K ohm, 5%, I/8W, Carbon
R684	EP14X193	47K ohm, 5%, I/8W, Carbon
R685	EP14X303	470 ohm, 5%, I/8W, Carbon
R687	EP14X104	22K ohm, 5%, I/4W, Carbon
R688	EP14X103	10K ohm, 5%, I/8W, Carbon
R689	EP14X284	10K ohm, 5%, I/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, I/8W, Carbon
R691	ES14X70	100 ohm, 5%, I/8W, Carbon
R692	EP14X193	47K ohm, 5%, I/8W, Carbon
R693	Common	220 ohm, 5%, I/8W, Carbon
R694	ES14X70	100 ohm, 5%, I/8W, Carbon
R696	EP14X103	10K ohm, 5%, I/8W, Carbon ADDED
R697	EP14X193	47K ohm, 5%, I/8W, Carbon
R698	EP14X193	47K ohm, 5%, I/8W, Carbon
R800	EP14X284	10K ohm, 5%, I/8W, Carbon
R801	EP14X284	10K ohm, 5%, I/8W, Carbon
R802	EP14X284	10K ohm, 5%, I/8W, Carbon
R803	EP14X284	10K ohm, 5%, I/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X236	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switxh, PNP, Silicon
Q602	EP15X57	B+ Switxh, PNP, Silicon
Q603	EP15X87	B+ Switxh, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Standby Power, NPN, Silicon DELETED
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	Standby Power, NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X474

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X149	10µf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C106	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047µf, 10%, 50V, Polyester
C509	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C600	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X179	4.7µf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C621	EP31X166	1µf, 20%, 50V, Elect.
C623	EP31X149	10µf, 20%, 35V, Elect.
C624	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, I/8W, Carbon
R102	ES14X58	470 ohm, 5%, I/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, I/4W, Metal Oxide
R105	EP14X299	68 ohm, 5%, I/4W, Carbon
R106	Common	39 ohm, 5%, I/8W, Carbon
R202	EP14X284	10K ohm, 5%, I/8W, Carbon
R500	ES14X71	1K ohm, 5%, I/8W, Carbon
R501	EP14X284	1K ohm, 5%, I/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R503	EP14X284	1K ohm, 5%, I/8W, Carbon
R507	EP14X271	33K ohm, 5%, I/8W, Carbon
R508	Common	4.3 Meg ohm, 5%, I/4W, Carbon
R509	EP14X271	33K ohm, 5%, I/8W, Carbon
R511	ES14X59	560 ohm, 5%, I/8W, Carbon
R512	EP14X62	1.5K ohm, 5%, I/8W, Carbon
R513	EP14X284	10K ohm, 5%, I/8W, Carbon
R514	EP14X284	10K ohm, 5%, I/8W, Carbon
R515	ES14X71	1K ohm, 5%, I/8W, Carbon
R516	ES14X70	100 ohm, 5%, I/8W, Carbon
R517	Common	200K ohm, 5%, I/8W, Carbon
R520	EP14X212	82 ohm, 5%, I/8W, Carbon
R601	Common	6.2K ohm, 5%, I/8W, Carbon
R602	EP14X271	16K ohm, 5%, I/8W, Carbon
R603	EP14X284	10K ohm, 5%, I/8W, Carbon
R604	EP14X285	15K ohm, 5%, I/8W, Carbon
R605	Common	1.2K ohm, 5%, I/8W, Carbon
R606	EP14X285	15K ohm, 5%, I/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R608	EP14X303	22K ohm, 5%, I/8W, Carbon
R609	EP14X104	22K ohm, 5%, I/8W, Carbon
R610	EP14X303	100K ohm, 5%, I/8W, Carbon
R611	EP14X303	100K ohm, 5%, I/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R613	Common	1.2K ohm, 5%, I/8W, Carbon
R614	Common	1.2K ohm, 5%, I/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R618	EP14X284	10K ohm, 5%, I/8W, Carbon
R619	EP14X284	10K ohm, 5%, I/8W, Carbon
R620	EP14X284	10K ohm, 5%, I/8W, Carbon
R621	EP14X284	10K ohm, 5%, I/8W, Carbon
R622	EP14X284	10K ohm, 5%, I/8W, Carbon
R623	EP14X284	10K ohm, 5%, I/8W, Carbon
R624	EP14X193	47K ohm, 5%, I/8W, Carbon
R625	EP14X193	47K ohm, 5%, I/8W, Carbon
R626	EP14X193	47K ohm, 5%, I/8W, Carbon
R627	EP14X193	47K ohm, 5%, I/8W, Carbon
R628	EP14X193	47K ohm, 5%, I/8W, Carbon
R629	EP14X193	47K ohm, 5%, I/8W, Carbon
R630	EP14X125	47K ohm, 5%, I/8W, Carbon
R631	EP14X284	10K ohm, 5%, I/8W, Carbon
R632	EP14X285	15K ohm, 5%, I/8W, Carbon
R633	EP14X285	15K ohm, 5%, I/8W, Carbon
R635	EP14X303	22K ohm, 5%, I/8W, Carbon
R636	EP14X193	47K ohm, 5%, I/8W, Carbon
R637	EP14X103	10K ohm, 5%, I/8W, Carbon
R638	EP14X284	1K ohm, 5%, I/8W, Carbon
R639	EP14X303	100K ohm, 5%, I/8W, Carbon
R641	EP14X271	33K ohm, 5%, I/8W, Carbon
R642	EP14X133	470K ohm, 5%, I/8W, Carbon
R643	EP14X284	10K ohm, 5%, I/8W, Carbon
R644	ES14X70	100 ohm, 5%, I/8W, Carbon
R645	EP14X271	33K ohm, 5%, I/8W, Carbon
R648	Common	30K ohm, 5%, I/8W, Carbon
R649	ES14X71	1K ohm, 5%, I/8W, Carbon
R650	EP14X238	620 ohm, 5%, I/8W, Carbon
R651	EP14X238	620 ohm, 5%, I/8W, Carbon
R652	EP14X238	620 ohm, 5%, I/8W, Carbon
R653	EP14X238	620 ohm, 5%, I/8W, Carbon
R654	EP14X238	620 ohm, 5%, I/8W, Carbon
R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon

R663	EP14X238	620 ohm, 5%, l/8W, Carbon
R664	EP14X284	10K ohm, 5%, l/8W, Carbon
R665	EP14X284	10K ohm, 5%, l/8W, Carbon
R666	EP14X284	10K ohm, 5%, l/8W, Carbon
R667	EP14X125	47K ohm, 5%, l/8W, Carbon
R668	EP14X193	47K ohm, 5%, l/8W, Carbon
R669	EP14X303	22K ohm, 5%, l/8W, Carbon
R670	EP14X193	47K ohm, 5%, l/8W, Carbon
R671	EP14X103	10K ohm, 5%, l/8W, Carbon
R672	EP14X103	10K ohm, 5%, l/8W, Carbon
R673	EP14X103	10K ohm, 5%, l/8W, Carbon
R674	EP14X103	10K ohm, 5%, l/8W, Carbon
R675	EP14X103	10K ohm, 5%, l/8W, Carbon
R676	EP14X103	10K ohm, 5%, l/8W, Carbon
R677	Common	43K ohm, 5%, l/8W, Carbon
R678	EP14X285	15K ohm, 5%, l/8W, Carbon
R679	EP14X285	15K ohm, 5%, l/8W, Carbon
R680	EP14X285	15K ohm, 5%, l/8W, Carbon
R681	EP14X285	15K ohm, 5%, l/8W, Carbon
R682	EP14X285	15K ohm, 5%, l/8W, Carbon
R683	EP14X285	15K ohm, 5%, l/8W, Carbon
R684	EP14X193	47K ohm, 5%, l/8W, Carbon
R685	EP14X303	470 ohm, 5%, l/8W, Carbon
R688	EP14X103	10K ohm, 5%, l/8W, Carbon
R689	EP14X284	10K ohm, 5%, l/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, l/8W, Carbon
R691	ES14X70	100 ohm, 5%, l/8W, Carbon
R692	EP14X193	47K ohm, 5%, l/8W, Carbon
R693	Common	220 ohm, 5%, l/8W, Carbon
R694	ES14X70	100 ohm, 5%, l/8W, Carbon
R696	EP14X103	20K ohm, 5%, l/8W, Carbon
R697	EP14X193	47K ohm, 5%, l/8W, Carbon
R698	EP14X193	47K ohm, 5%, l/8W, Carbon
R800	EP14X284	10K ohm, 5%, l/8W, Carbon
R801	EP14X284	10K ohm, 5%, l/8W, Carbon
R802	EP14X284	10K ohm, 5%, l/8W, Carbon
R803	EP14X284	10K ohm, 5%, l/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOLTAGE REGULATOR
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X237	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X57	PNP, Silicon
Q602	EP15X57	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X490

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X47	47μf, 20%, 50V, Elect.
C101	EP31X162	100μf, 20%, 25V, Elect.
C102	EP31X163	47μf, 20%, 25V, Elect.
C103	EP31X149	10μf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047μf, 10%, 50V, Polyester
C509	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1μf, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01μf, 10%, 50V, Polyester
C600	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7μf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C620	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C621	EP31X166	1μf, 20%, 50V, Elect.
C622	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C623	EP31X149	10μf, 20%, 35V, Elect.
C624	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2μf, 20%, 50V, Elect.
C650	EP31X149	10μf, 20%, 35V, Elect.
C689	EP31X149	10μf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, lW, Carbon
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	Common	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/8W, Carbon
R501	EP14X284	1K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R508	Common	4.3meg ohm, 5%, l/4W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	ES14X59	560 ohm, 5%, l/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	Common	200K ohm, 5%, l/8W, Carbon
R520	EP14X212	82 ohm, 5%, l/8W, Carbon
R601	Common	6.2K ohm, 5%, l/8W, Carbon
R602	EP14X271	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	Common	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X303	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	Common	1.2K ohm, 5%, l/8W, Carbon
R614	Common	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X125	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X303	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/8W, Carbon
R638	EP14X284	1K ohm, 5%, l/8W, Carbon
R639	EP14X303	220K ohm, 5%, l/8W, Carbon
R641	EP14X271	33K ohm, 5%, l/8W, Carbon
R642	EP14X133	470K ohm, 5%, l/8W, Carbon
R643	EP14X284	10K ohm, 5%, l/8W, Carbon
R644	ES14X70	100 ohm, 5%, l/8W, Carbon
R645	EP14X271	33K ohm, 5%, l/8W, Carbon
R648	Common	30K ohm, 5%, l/8W, Carbon

R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X125	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	EP14X288	30K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	Common	36K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X234	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X494

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X149	10µf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C106	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047µf, 10%, 50V, Polyester
C509	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi-Polar, Elect.
C511	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C600	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X179	4.7µf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C620	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C621	EP31X166	1µf, 20%, 50V, Elect.
C622	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C623	EP31X149	10µf, 20%, 35V, Elect.
C624	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.
C689	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	Common	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/8W, Carbon
R501	EP14X284	1K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R508	Common	4.3 Meg ohm, 5%, l/4W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	ES14X59	560 ohm, 5%, l/8W, Carbon
R512	EP14X62	1.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	Common	200K ohm, 5%, l/8W, Carbon
R520	EP14X212	82 ohm, 5%, l/8W, Carbon
R601	Common	6.8K ohm, 5%, l/8W, Carbon
R602	Common	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	Common	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X303	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	Common	1.2K ohm, 5%, l/8W, Carbon
R614	Common	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X125	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X303	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/8W, Carbon
R638	EP14X284	1K ohm, 5%, l/8W, Carbon
R639	EP14X303	220K ohm, 5%, l/8W, Carbon
R641	EP14X271	33K ohm, 5%, l/8W, Carbon
R642	EP14X133	470K ohm, 5%, l/8W, Carbon
R643	EP14X284	10K ohm, 5%, l/8W, Carbon
R644	ES14X70	100 ohm, 5%, l/8W, Carbon
R645	EP14X271	33K ohm, 5%, l/8W, Carbon
R648	Common	30K ohm, 5%, l/8W, Carbon
R649	ES14X71	1K ohm, 5%, l/8W, Carbon
R650	EP14X238	620 ohm, 5%, l/8W, Carbon
R651	EP14X238	620 ohm, 5%, l/8W, Carbon
R652	EP14X238	620 ohm, 5%, l/8W, Carbon
R653	EP14X238	620 ohm, 5%, l/8W, Carbon
R654	EP14X238	620 ohm, 5%, l/8W, Carbon
R655	EP14X238	620 ohm, 5%, l/8W, Carbon

R656	EP14X238	620 ohm, 5%, l/8W, Carbon
R657	EP14X238	620 ohm, 5%, l/8W, Carbon
R658	EP14X238	620 ohm, 5%, l/8W, Carbon
R659	EP14X238	620 ohm, 5%, l/8W, Carbon
R660	EP14X238	620 ohm, 5%, l/8W, Carbon
R661	EP14X238	620 ohm, 5%, l/8W, Carbon
R662	EP14X238	620 ohm, 5%, l/8W, Carbon
R663	EP14X238	620 ohm, 5%, l/8W, Carbon
R664	EP14X284	10K ohm, 5%, l/8W, Carbon
R665	EP14X284	10K ohm, 5%, l/8W, Carbon
R666	EP14X284	10K ohm, 5%, l/8W, Carbon
R667	EP14X125	47K ohm, 5%, l/8W, Carbon
R668	EP14X193	47K ohm, 5%, l/8W, Carbon
R669	EP14X303	22K ohm, 5%, l/8W, Carbon
R670	EP14X193	47K ohm, 5%, l/8W, Carbon
R671	EP14X103	10K ohm, 5%, l/8W, Carbon
R672	EP14X103	10K ohm, 5%, l/8W, Carbon
R673	EP14X103	10K ohm, 5%, l/8W, Carbon
R674	EP14X103	10K ohm, 5%, l/8W, Carbon
R675	EP14X103	10K ohm, 5%, l/8W, Carbon
R676	EP14X103	10K ohm, 5%, l/8W, Carbon
R677	EP14X288	30K ohm, 5%, l/8W, Carbon
R678	EP14X285	15K ohm, 5%, l/8W, Carbon
R679	EP14X285	15K ohm, 5%, l/8W, Carbon
R680	EP14X285	15K ohm, 5%, l/8W, Carbon
R681	EP14X285	15K ohm, 5%, l/8W, Carbon
R682	EP14X285	15K ohm, 5%, l/8W, Carbon
R683	EP14X285	15K ohm, 5%, l/8W, Carbon
R684	EP14X193	47K ohm, 5%, l/8W, Carbon
R685	EP14X303	470 ohm, 5%, l/8W, Carbon
R687	EP14X104	22K ohm, 5%, l/4W, Carbon
R688	EP14X103	10K ohm, 5%, l/8W, Carbon
R689	EP14X284	10K ohm, 5%, l/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, l/8W, Carbon
R691	ES14X70	100 ohm, 5%, l/8W, Carbon
R692	EP14X193	47K ohm, 5%, l/8W, Carbon
R693	Common	220 ohm, 5%, l/8W, Carbon
R694	ES14X70	100 ohm, 5%, l/8W, Carbon
R697	EP14X193	47K ohm, 5%, l/8W, Carbon
R698	EP14X193	47K ohm, 5%, l/8W, Carbon
R800	EP14X284	10K ohm, 5%, l/8W, Carbon
R801	EP14X284	10K ohm, 5%, l/8W, Carbon
R802	EP14X284	10K ohm, 5%, l/8W, Carbon
R803	EP14X284	10K ohm, 5%, l/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 Terminal Voltage Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X234	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	B+ Switch, NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	Standby Power, NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Filter

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X492

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X163	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X149	10µf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C106	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047µf, 10%, 50, Polyester
C509	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C600	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C601	EP18X287	.022µf, +80-20%, 50V, HiK Cer. Disc
C602	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022µf, +80-20%, HiK, Cer. Disc
C605	EP18X287	.022µf, +80-20%, HiK, Cer. Disc
C606	EP18X287	.022µf, +80-20%, HiK, Cer. Disc
C607	EP18X287	.022µf, +80-20%, HiK, Cer. Disc
C608	EP18X287	.022µf, +80-20%, HiK, Cer. Disc
C609	EP18X287	.022µf, +80-20%, HiK, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7µf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022µf, +80-20%, HiK, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022µf, +80-20%, HiK, Cer. Disc
C620	EP18X287	.022µf, +80-20%, HiK, Cer. Disc
C621	EP18X287	.022µf, +80-20%, HiK, Cer. Disc
C622	EP18X287	.022µf, +80-20%, HiK, Cer. Disc
C623	EP31X149	10µf, 20%, 35V, Elect.
C624	EP18X287	.022µf, +80-20%, HiK, Cer. Disc
C625	EP18X287	.022µf, +80-20%, HiK, Cer. Disc
C626	EP18X287	.022µf, +80-20%, HiK, Cer. Disc
C627	EP18X287	.022µf, +80-20%, HiK, Cer. Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.
C689	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	Common	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/8W, Carbon
R501	EP14X284	1K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R508	Common	4.3 Meg ohm, 5%, l/4W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	ES14X59	560 ohm, 5%, l/8W, Carbon
R512	EP14X62	1.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	Common	200K ohm, 5%, l/8W, Carbon
R520	EP14X212	82 ohm, 5%, l/8W, Carbon
R601	Common	6.8K ohm, 5%, l/8W, Carbon
R602	Common	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	Common	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X303	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	Common	1.2K ohm, 5%, l/8W, Carbon
R614	Common	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X125	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X303	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/8W, Carbon
R638	EP14X284	1K ohm, 5%, l/8W, Carbon
R639	EP14X303	220K ohm, 5%, l/8W, Carbon
R641	EP14X271	33K ohm, 5%, l/8W, Carbon
R641A	EP14X105	100K ohm, 5%, l/4W, Carbon
R642	EP14X133	470K ohm, 5%, l/8W, Carbon
R643	EP14X284	10K ohm, 5%, l/8W, Carbon
R644	ES14X70	100 ohm, 5%, l/8W, Carbon
R645	EP14X271	33K ohm, 5%, l/8W, Carbon
R648	Common	30K ohm, 5%, l/8W, Carbon
R649	ES14X71	1K ohm, 5%, l/8W, Carbon
R650	EP14X238	620 ohm, 5%, l/8W, Carbon
R651	EP14X238	620 ohm, 5%, l/8W, Carbon
R652	EP14X238	620 ohm, 5%, l/8W, Carbon
R653	EP14X238	620 ohm, 5%, l/8W, Carbon

R654	EP14X238	620 ohm, 5%, l/8W, Carbon
R655	EP14X238	620 ohm, 5%, l/8W, Carbon
R656	EP14X238	620 ohm, 5%, l/8W, Carbon
R657	EP14X238	620 ohm, 5%, l/8W, Carbon
R658	EP14X238	620 ohm, 5%, l/8W, Carbon
R659	EP14X238	620 ohm, 5%, l/8W, Carbon
R660	EP14X238	620 ohm, 5%, l/8W, Carbon
R661	EP14X238	620 ohm, 5%, l/8W, Carbon
R662	EP14X238	620 ohm, 5%, l/8W, Carbon
R663	EP14X238	620 ohm, 5%, l/8W, Carbon
R664	EP14X284	10K ohm, 5%, l/8W, Carbon
R665	EP14X284	10K ohm, 5%, l/8W, Carbon
R666	EP14X284	10K ohm, 5%, l/8W, Carbon
R667	EP14X125	47K ohm, 5%, l/8W, Carbon
R668	EP14X193	47K ohm, 5%, l/8W, Carbon
R669	EP14X303	22K ohm, 5%, l/8W, Carbon
R670	EP14X193	47K ohm, 5%, l/8W, Carbon
R671	EP14X103	10K ohm, 5%, l/8W, Carbon
R672	EP14X103	10K ohm, 5%, l/8W, Carbon
R673	EP14X103	10K ohm, 5%, l/8W, Carbon
R674	EP14X103	10K ohm, 5%, l/8W, Carbon
R675	EP14X103	10K ohm, 5%, l/8W, Carbon
R676	EP14X103	10K ohm, 5%, l/8W, Carbon
R677	EP14X288	30K ohm, 5%, l/8W, Carbon
R678	EP14X285	15K ohm, 5%, l/8W, Carbon
R679	EP14X285	15K ohm, 5%, l/8W, Carbon
R680	EP14X285	15K ohm, 5%, l/8W, Carbon
R681	EP14X285	15K ohm, 5%, l/8W, Carbon
R682	EP14X285	15K ohm, 5%, l/8W, Carbon
R683	EP14X285	15K ohm, 5%, l/8W, Carbon
R684	EP14X193	47K ohm, 5%, l/8W, Carbon
R685	EP14X303	470 ohm, 5%, l/8W, Carbon
R687	Common	36K ohm, 5%, l/4W, Carbon
R688	EP14X103	10K ohm, 5%, l/8W, Carbon
R689	EP14X284	10K ohm, 5%, l/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, l/8W, Carbon
R691	ES14X70	100 ohm, 5%, l/8W, Carbon
R692	EP14X193	47K ohm, 5%, l/8W, Carbon
R693	Common	220 ohm, 5%, l/8W, Carbon
R694	ES14X70	100 ohm, 5%, l/8W, Carbon
R697	EP14X193	47K ohm, 5%, l/8W, Carbon
R698	EP14X193	47K ohm, 5%, l/8W, Carbon
R800	EP14X284	10K ohm, 5%, l/8W, Carbon
R801	EP14X284	10K ohm, 5%, l/8W, Carbon
R802	EP14X284	10K ohm, 5%, l/8W, Carbon
R803	EP14X284	10K ohm, 5%, l/8W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REGULATOR
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X234	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X57	PNP, Silicon
Q602	EP15X57	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	NPN, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	NPN, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

TUNER CONTROL CIRCUIT BOARD
EP93X508

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47μf, 20%, 50V, Elect.
C101	EP31X162	100μf, 20%, 25V, Elect.
C102	EP31X163	47μf, 20%, 25V, Elect.
C103	EP31X149	10μf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP16X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047μf, 10%, 50V, Polyester
C509	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1μf, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01μf, 10%, 50V, Polyester
C600	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7μf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C620	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C621	EP31X166	1μf, 20%, 50V, Elect.
C622	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C623	EP31X149	10μf, 20%, 35V, Elect.
C624	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2μf, 20%, 50V, Elect.
C650	EP31X149	10μf, 20%, 35V, Elect.
C689	EP31X149	10μf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X407	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, lW, Metal Oxide
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	EP14X344	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/4W, Carbon
R501	EP14X284	1K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R508	EP14X430	4.3meg ohm, 5%, l/4W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	ES14X59	560 ohm, 5%, l/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/4W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	EP14X427	200K ohm, 5%, l/8W, Carbon
R520	EP14X428	82 ohm, 5%, l/4W, Carbon
R601	EP14X394	6.2K ohm, 5%, l/8W, Carbon
R602	EP14X429	16K ohm, 5%, l/4W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	ES14X70	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X379	5.6K ohm, 5%, l/4W, Carbon
R608	EP14X303	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/4W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/4W, Carbon
R613	ES14X70	1.2K ohm, 5%, l/8W, Carbon
R614	ES14X70	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/4W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X131	47K ohm, 5%, l/4W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X303	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/4W, Carbon
R638	EP14X284	1K ohm, 5%, l/8W, Carbon
R639	EP14X303	100K ohm, 5%, l/8W, Carbon
R641	EP14X271	33K ohm, 5%, l/8W, Carbon
R642	EP14X133	470K ohm, 5%, l/8W, Carbon
R643	EP14X284	10K ohm, 5%, l/8W, Carbon
R644	ES14X70	100 ohm, 5%, l/8W, Carbon
R645	EP14X271	33K ohm, 5%, l/8W, Carbon
R648	EP14X288	30K ohm, 5%, l/8W, Carbon
R649	ES14X71	1K ohm, 5%, l/4W, Carbon
R650	EP14X238	620 ohm, 5%, l/8W, Carbon
R651	EP14X238	620 ohm, 5%, l/8W, Carbon
R652	EP14X238	620 ohm, 5%, l/8W, Carbon
R653	EP14X238	620 ohm, 5%, l/8W, Carbon
R654	EP14X238	620 ohm, 5%, l/8W, Carbon
R655	EP14X238	620 ohm, 5%, l/8W, Carbon
R656	EP14X238	620 ohm, 5%, l/8W, Carbon
R657	EP14X238	620 ohm, 5%, l/8W, Carbon

R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon
R663	EP14X238	620 ohm, 5%, I/8W, Carbon
R664	EP14X284	10K ohm, 5%, I/8W, Carbon
R665	EP14X284	10K ohm, 5%, I/8W, Carbon
R666	EP14X284	10K ohm, 5%, I/8W, Carbon
R667	EP14X131	47K ohm, 5%, I/4W, Carbon
R668	EP14X193	47K ohm, 5%, I/8W, Carbon
R669	EP14X303	22K ohm, 5%, I/8W, Carbon
R670	EP14X193	47K ohm, 5%, I/8W, Carbon
R671	EP14X103	10K ohm, 5%, I/4W, Carbon
R672	EP14X103	10K ohm, 5%, I/4W, Carbon
R673	EP14X103	10K ohm, 5%, I/4W, Carbon
R674	EP14X103	10K ohm, 5%, I/4W, Carbon
R675	EP14X103	10K ohm, 5%, I/4W, Carbon
R676	EP14X103	10K ohm, 5%, I/4W, Carbon
R677	EP14X419	30K ohm, 5%, I/4W, Carbon
R678	EP14X285	15K ohm, 5%, I/8W, Carbon
R679	EP14X285	15K ohm, 5%, I/8W, Carbon
R680	EP14X285	15K ohm, 5%, I/8W, Carbon
R681	EP14X285	15K ohm, 5%, I/8W, Carbon
R682	EP14X285	15K ohm, 5%, I/8W, Carbon
R683	EP14X285	15K ohm, 5%, I/8W, Carbon
R684	EP14X193	47K ohm, 5%, I/8W, Carbon
R685	EP14X303	470 ohm, 5%, I/8W, Carbon
R687	EP14X426	36K ohm, 5%, I/4W, Carbon
R688	EP14X103	10K ohm, 5%, I/4W, Carbon
R689	EP14X284	10K ohm, 5%, I/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, I/8W, Carbon
R691	ES14X70	100 ohm, 5%, I/8W, Carbon
R692	EP14X193	47K ohm, 5%, I/8W, Carbon
R693	EP14X129	220 ohm, 5%, I/8W, Carbon
R694	ES14X70	100 ohm, 5%, I/8W, Carbon
R697	EP14X193	47K ohm, 5%, I/8W, Carbon
R698	EP14X193	47K ohm, 5%, I/8W, Carbon
R800	EP14X284	10K ohm, 5%, I/8W, Carbon
R801	EP14X284	10K ohm, 5%, I/8W, Carbon
R802	EP14X284	10K ohm, 5%, I/8W, Carbon
R803	EP14X284	10K ohm, 5%, I/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X234	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L110	EP36X33	CHOKE-56μh, 5%
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X509

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X47	47μf, 20%, 50V, Elect.
C101	EP31X162	100μf, 20%, 25V, Elect.
C102	EP31X163	47μf, 20%, 25V, Elect.
C103	EP31X149	10μf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047μf, 10%, 50V, Polyester
C509	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1μf, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01μf, 10%, 50V, Polyester
C600	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7μf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C620	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C621	EP31X166	1μf, 20%, 50V, Elect.
C622	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C623	EP31X149	10μf, 20%, 35V, Elect.
C624	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2μf, 20%, 50V, Elect.
C650	EP31X149	10μf, 20%, 35V, Elect.
C660	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C689	EP31X149	10μf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X437	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	EP14X361	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, lW, Carbon
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	EP14X434	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/8W, Carbon
R501	EP14X284	1K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R508	EP14X430	4.7 meg ohm, 5%, l/4W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	ES14X59	560 ohm, 5%, l/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/8W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	EP14X427	200K ohm, 5%, l/8W, Carbon
R520	EP14X212	82 ohm, 5%, l/8W, Carbon
R601	EP14X394	6.2K ohm, 5%, l/8W, Carbon
R602	EP14X271	16K ohm, 5%, l/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	EP14X444	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R608	EP14X303	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/8W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R613	EP14X444	1.2K ohm, 5%, l/8W, Carbon
R614	EP14X444	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X193	47K ohm, 5%, l/8W, Carbon
R625	EP14X193	47K ohm, 5%, l/8W, Carbon
R626	EP14X193	47K ohm, 5%, l/8W, Carbon
R627	EP14X193	47K ohm, 5%, l/8W, Carbon
R628	EP14X193	47K ohm, 5%, l/8W, Carbon
R629	EP14X193	47K ohm, 5%, l/8W, Carbon
R630	EP14X125	47K ohm, 5%, l/8W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X303	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/8W, Carbon
R638	EP14X284	1K ohm, 5%, l/8W, Carbon
R639	EP14X303	220K ohm, 5%, l/8W, Carbon
R641	EP14X271	33K ohm, 5%, l/8W, Carbon
R642	EP14X133	470K ohm, 5%, l/8W, Carbon
R643	EP14X284	10K ohm, 5%, l/8W, Carbon
R644	ES14X70	100 ohm, 5%, l/8W, Carbon
R645	EP14X271	33K ohm, 5%, l/8W, Carbon
R648	EP14X419	30K ohm, 5%, l/8W, Carbon
R649	ES14X71	1K ohm, 5%, l/8W, Carbon
R650	EP14X238	620 ohm, 5%, l/8W, Carbon
R651	EP14X238	620 ohm, 5%, l/8W, Carbon
R652	EP14X238	620 ohm, 5%, l/8W, Carbon
R653	EP14X238	620 ohm, 5%, l/8W, Carbon
R654	EP14X238	620 ohm, 5%, l/8W, Carbon

R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon
R663	EP14X238	620 ohm, 5%, I/8W, Carbon
R664	EP14X284	10K ohm, 5%, I/8W, Carbon
R665	EP14X284	10K ohm, 5%, I/8W, Carbon
R666	EP14X284	10K ohm, 5%, I/8W, Carbon
R667	EP14X125	47K ohm, 5%, I/8W, Carbon
R668	EP14X193	47K ohm, 5%, I/8W, Carbon
R669	EP14X303	22K ohm, 5%, I/8W, Carbon
R670	EP14X193	47K ohm, 5%, I/8W, Carbon
R671	EP14X103	10K ohm, 5%, I/8W, Carbon
R672	EP14X103	10K ohm, 5%, I/8W, Carbon
R673	EP14X103	10K ohm, 5%, I/8W, Carbon
R674	EP14X103	10K ohm, 5%, I/8W, Carbon
R675	EP14X103	10K ohm, 5%, I/8W, Carbon
R676	EP14X103	10K ohm, 5%, I/8W, Carbon
R677	EP14X288	30K ohm, 5%, I/8W, Carbon
R678	EP14X285	15K ohm, 5%, I/8W, Carbon
R679	EP14X285	15K ohm, 5%, I/8W, Carbon
R680	EP14X285	15K ohm, 5%, I/8W, Carbon
R681	EP14X285	15K ohm, 5%, I/8W, Carbon
R682	EP14X285	15K ohm, 5%, I/8W, Carbon
R683	EP14X285	15K ohm, 5%, I/8W, Carbon
R684	EP14X193	47K ohm, 5%, I/8W, Carbon
R685	EP14X303	470 ohm, 5%, I/8W, Carbon
R687	EP14X426	36K ohm, 5%, I/4W, Carbon
R688	EP14X103	10K ohm, 5%, I/8W, Carbon
R689	EP14X284	10K ohm, 5%, I/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, I/8W, Carbon
R691	ES14X70	100 ohm, 5%, I/8W, Carbon
R692	EP14X193	47K ohm, 5%, I/8W, Carbon
R693	EP14X445	220 ohm, 5%, I/8W, Carbon
R694	ES14X70	100 ohm, 5%, I/8W, Carbon
R697	EP14X193	47K ohm, 5%, I/8W, Carbon
R698	EP14X193	47K ohm, 5%, I/8W, Carbon
R800	EP14X284	10K ohm, 5%, I/8W, Carbon
R801	EP14X284	10K ohm, 5%, I/8W, Carbon
R802	EP14X284	10K ohm, 5%, I/8W, Carbon
R803	EP14X284	10K ohm, 5%, I/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X234	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X530

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X149	10µf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C500	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047µf, 10%, 50V, Polyester
C509	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C600	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C602	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C603	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C604	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C605	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C606	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C607	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C608	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C609	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7µf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C621	EP31X166	1µf, 20%, 50V, Elect.
C623	EP31X149	10µf, 20%, 35V, Elect.
C624	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.
C660	EP18X287	.022µf, +80-20%, 50V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X407	3.9K ohm, 5%, I/8W, Carbon
R102	ES14X58	470 ohm, 5%, I/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, IW, Metal Oxide
R105	EP14X182	68 ohm, 5%, I/4W, Carbon
R106	EP14X344	39 ohm, 5%, I/8W, Carbon
R202	EP14X284	10K ohm, 5%, I/8W, Carbon
R500	ES14X71	1K ohm, 5%, I/4W, Carbon
R501	EP14X284	1K ohm, 5%, I/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R503	EP14X284	1K ohm, 5%, I/8W, Carbon
R507	EP14X271	33K ohm, 5%, I/8W, Carbon
R508	EP14X430	4.7meg ohm, 5%, I/4W, Carbon
R509	EP14X271	33K ohm, 5%, I/8W, Carbon
R511	ES14X59	560 ohm, 5%, I/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, I/8W, Carbon
R513	EP14X284	10K ohm, 5%, I/8W, Carbon
R514	EP14X284	10K ohm, 5%, I/8W, Carbon
R515	ES14X71	1K ohm, 5%, I/4W, Carbon
R516	ES14X70	100 ohm, 5%, I/8W, Carbon
R517	EP14X427	200K ohm, 5%, I/8W, Carbon
R520	EP14X428	82 ohm, 5%, I/4W, Carbon
R603	EP14X284	10K ohm, 5%, I/8W, Carbon
R604	EP14X285	15K ohm, 5%, I/8W, Carbon
R605	ES14X70	1.2K ohm, 5%, I/8W, Carbon
R606	EP14X285	15K ohm, 5%, I/8W, Carbon
R607	EP14X379	5.6K ohm, 5%, I/4W, Carbon
R608	EP14X303	22K ohm, 5%, I/8W, Carbon
R609	EP14X104	22K ohm, 5%, I/4W, Carbon
R610	EP14X303	100K ohm, 5%, I/8W, Carbon
R611	EP14X303	100K ohm, 5%, I/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, I/4W, Carbon
R613	ES14X70	1.2K ohm, 5%, I/8W, Carbon
R614	ES14X70	1.2K ohm, 5%, I/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, I/4W, Carbon
R616	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R618	EP14X284	10K ohm, 5%, I/8W, Carbon
R619	EP14X284	10K ohm, 5%, I/8W, Carbon
R620	EP14X284	10K ohm, 5%, I/8W, Carbon
R621	EP14X284	10K ohm, 5%, I/8W, Carbon
R622	EP14X284	10K ohm, 5%, I/8W, Carbon
R623	EP14X284	10K ohm, 5%, I/8W, Carbon
R601	EP14X394	6.2K ohm, 5%, I/8W, Carbon
R602	EP14X429	16K ohm, 5%, I/4W, Carbon
R624	EP14X427	200K ohm, 5%, I/8W, Carbon
R625	EP14X427	200K ohm, 5%, I/8W, Carbon
R626	EP14X427	200K ohm, 5%, I/8W, Carbon
R627	EP14X427	200K ohm, 5%, I/8W, Carbon
R628	EP14X427	200K ohm, 5%, I/8W, Carbon
R629	EP14X427	200K ohm, 5%, I/8W, Carbon
R625	EP14X193	47K ohm, 5%, I/8W, Carbon
R626	EP14X193	47K ohm, 5%, I/8W, Carbon
R627	EP14X193	47K ohm, 5%, I/8W, Carbon
R628	EP14X193	47K ohm, 5%, I/8W, Carbon
R629	EP14X193	47K ohm, 5%, I/8W, Carbon
R630	EP14X131	47K ohm, 5%, I/4W, Carbon
R631	EP14X284	10K ohm, 5%, I/8W, Carbon
R632	EP14X285	15K ohm, 5%, I/8W, Carbon
R633	EP14X285	15K ohm, 5%, I/8W, Carbon
R635	EP14X303	22K ohm, 5%, I/8W, Carbon
R636	EP14X193	47K ohm, 5%, I/8W, Carbon
R637	EP14X103	10K ohm, 5%, I/4W, Carbon
R638	EP14X284	1K ohm, 5%, I/8W, Carbon
R639	EP14X303	100K ohm, 5%, I/8W, Carbon
R641	EP14X271	33K ohm, 5%, I/8W, Carbon
R642	EP14X133	470K ohm, 5%, I/8W, Carbon
R643	EP14X284	10K ohm, 5%, I/8W, Carbon
R644	ES14X70	100 ohm, 5%, I/8W, Carbon
R645	EP14X271	33K ohm, 5%, I/8W, Carbon
R648	EP14X288	30K ohm, 5%, I/8W, Carbon
R649	ES14X71	1K ohm, 5%, I/4W, Carbon

R650	EP14X238	620 ohm, 5%, l/8W, Carbon
R651	EP14X238	620 ohm, 5%, l/8W, Carbon
R652	EP14X238	620 ohm, 5%, l/8W, Carbon
R653	EP14X238	620 ohm, 5%, l/8W, Carbon
R654	EP14X238	620 ohm, 5%, l/8W, Carbon
R655	EP14X238	620 ohm, 5%, l/8W, Carbon
R656	EP14X238	620 ohm, 5%, l/8W, Carbon
R657	EP14X238	620 ohm, 5%, l/8W, Carbon
R658	EP14X238	620 ohm, 5%, l/8W, Carbon
R659	EP14X238	620 ohm, 5%, l/8W, Carbon
R660	EP14X238	620 ohm, 5%, l/8W, Carbon
R661	EP14X238	620 ohm, 5%, l/8W, Carbon
R662	EP14X238	620 ohm, 5%, l/8W, Carbon
R663	EP14X238	620 ohm, 5%, l/8W, Carbon
R664	EP14X284	10K ohm, 5%, l/8W, Carbon
R665	EP14X284	10K ohm, 5%, l/8W, Carbon
R666	EP14X284	10K ohm, 5%, l/8W, Carbon
R667	EP14X131	47K ohm, 5%, l/4W, Carbon
R668	EP14X193	47K ohm, 5%, l/8W, Carbon
R669	EP14X303	22K ohm, 5%, l/8W, Carbon
R670	EP14X193	47K ohm, 5%, l/8W, Carbon
R671	EP14X103	10K ohm, 5%, l/4W, Carbon
R672	EP14X103	10K ohm, 5%, l/4W, Carbon
R673	EP14X103	10K ohm, 5%, l/4W, Carbon
R674	EP14X103	10K ohm, 5%, l/4W, Carbon
R675	EP14X103	10K ohm, 5%, l/4W, Carbon
R676	EP14X103	10K ohm, 5%, l/4W, Carbon
R677	EP14X386	51K ohm, 5%, l/4W, Carbon
R678	EP14X285	15K ohm, 5%, l/8W, Carbon
R679	EP14X285	15K ohm, 5%, l/8W, Carbon
R680	EP14X285	15K ohm, 5%, l/8W, Carbon
R681	EP14X285	15K ohm, 5%, l/8W, Carbon
R682	EP14X285	15K ohm, 5%, l/8W, Carbon
R683	EP14X285	15K ohm, 5%, l/8W, Carbon
R684	EP14X193	47K ohm, 5%, l/8W, Carbon
R685	EP14X303	470 ohm, 5%, l/8W, Carbon
R688	EP14X103	10K ohm, 5%, l/4W, Carbon
R689	EP14X284	10K ohm, 5%, l/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, l/8W, Carbon
R691	ES14X70	100 ohm, 5%, l/8W, Carbon
R692	EP14X193	47K ohm, 5%, l/8W, Carbon
R693	EP14X129	220 ohm, 5%, l/8W, Carbon
R694	ES14X70	100 ohm, 5%, l/8W, Carbon
R696	EP14X103	10K ohm, 5%, 1/4W, Carbon
R697	EP14X193	47K ohm, 5%, l/8W, Carbon
R698	EP14X193	47K ohm, 5%, l/8W, Carbon
R800	EP14X284	10K ohm, 5%, l/8W, Carbon
R801	EP14X284	10K ohm, 5%, l/8W, Carbon
R802	EP14X284	10K ohm, 5%, l/8W, Carbon
R803	EP14X284	10K ohm, 5%, l/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X245	CONTROL MICROPROCESSOR
IC800	EP84X246	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L110	EP36X33	CHOKE-56μh, 5%
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X531

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47μf, 20%, 50V, Elect.
C101	EP31X162	100μf, 20%, 25V, Elect.
C102	EP31X163	47μf, 20%, 25V, Elect.
C103	EP31X149	10μf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047μf, 10%, 50V, Polyester
C509	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1μf, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01μf, 10%, 50V, Polyester
C600	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C604	EP22X32	.01μf, +80-20%, 50V, Cer. Disc
C605	EP22X32	.01μf, +80-20%, 50V,Hik, Cer. Disc
C606	EP22X32	.01μf, +80-20%, 50V,Hik, Cer. Disc
C607	EP22X32	.01μf, +80-20%, 50V,Hik, Cer. Disc
C608	EP22X32	.01μf, +80-20%, 50V,Hik, Cer. Disc
C609	EP18X262	.01μf, 10%, 50V,Hik, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7μf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C620	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C621	EP31X166	1μf, 20%, 50V, Elect.
C622	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C623	EP31X149	10μf, 20%, 35V, Elect.
C624	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2μf, 20%, 50V, Elect.
C650	EP31X149	10μf, 20%, 35V, Elect.
C689	EP31X149	10μf, 20%, 35V, Elect.
C660	EP18X287	.022μf, +80-20%, 50V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X407	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, lW, Metal Oxide
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	EP14X344	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R500	ES14X71	1K ohm, 5%, l/4W, Carbon
R501	EP14X284	1K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R503	EP14X284	1K ohm, 5%, l/8W, Carbon
R507	EP14X271	33K ohm, 5%, l/8W, Carbon
R508	EP14X430	4.7meg ohm, 10%, l/4W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	ES14X59	560 ohm, 5%, l/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/4W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	EP14X427	200K ohm, 5%, l/8W, Carbon
R520	EP14X428	82 ohm, 5%, l/4W, Carbon
R601	EP14X394	6.2K ohm, 5%, 1/8W, Carbon
R602	EP14X429	16K ohm, 5%, 1/4W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	ES14X54	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X379	5.6K ohm, 5%, l/4W, Carbon
R608	EP14X303	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/4W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/4W, Carbon
R613	ES14X54	1.2K ohm, 5%, l/8W, Carbon
R614	ES14X54	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/4W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X427	200K ohm, 5%, l/8W, Carbon
R625	EP14X427	200K ohm, 5%, l/8W, Carbon
R626	EP14X427	200K ohm, 5%, l/8W, Carbon
R627	EP14X427	200K ohm, 5%, l/8W, Carbon
R628	EP14X427	200K ohm, 5%, l/8W, Carbon
R629	EP14X427	200K ohm, 5%, l/8W, Carbon
R630	EP14X131	47K ohm, 5%, l/4W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X303	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/4W, Carbon
R638	EP14X284	1K ohm, 5%, l/8W, Carbon
R639	EP14X303	100K ohm, 5%, l/8W, Carbon
R641	EP14X271	33K ohm, 5%, l/8W, Carbon
R642	EP14X133	470K ohm, 5%, l/8W, Carbon

R643	EP14X284	10K ohm, 5%, l/8W, Carbon
R644	ES14X70	100 ohm, 5%, l/8W, Carbon
R645	EP14X271	33K ohm, 5%, l/8W, Carbon
R648	EP14X288	30K ohm, 5%, l/8W, Carbon
R649	ES14X71	1K ohm, 5%, l/4W, Carbon
R650	EP14X238	620 ohm, 5%, l/8W, Carbon
R651	EP14X238	620 ohm, 5%, l/8W, Carbon
R652	EP14X238	620 ohm, 5%, l/8W, Carbon
R653	EP14X238	620 ohm, 5%, l/8W, Carbon
R654	EP14X238	620 ohm, 5%, l/8W, Carbon
R655	EP14X238	620 ohm, 5%, l/8W, Carbon
R656	EP14X238	620 ohm, 5%, l/8W, Carbon
R657	EP14X238	620 ohm, 5%, l/8W, Carbon
R658	EP14X238	620 ohm, 5%, l/8W, Carbon
R659	EP14X238	620 ohm, 5%, l/8W, Carbon
R660	EP14X238	620 ohm, 5%, l/8W, Carbon
R661	EP14X238	620 ohm, 5%, l/8W, Carbon
R662	EP14X238	620 ohm, 5%, l/8W, Carbon
R663	EP14X238	620 ohm, 5%, l/8W, Carbon
R664	EP14X284	10K ohm, 5%, l/8W, Carbon
R665	EP14X284	10K ohm, 5%, l/8W, Carbon
R666	EP14X284	10K ohm, 5%, l/8W, Carbon
R667	EP14X131	47K ohm, 5%, l/4W, Carbon
R668	EP14X193	47K ohm, 5%, l/8W, Carbon
R669	EP14X303	22K ohm, 5%, l/8W, Carbon
R670	EP14X193	47K ohm, 5%, l/8W, Carbon
R671	EP14X103	10K ohm, 5%, l/4W, Carbon
R672	EP14X103	10K ohm, 5%, l/4W, Carbon
R673	EP14X103	10K ohm, 5%, l/4W, Carbon
R674	EP14X103	10K ohm, 5%, l/4W, Carbon
R675	EP14X103	10K ohm, 5%, l/4W, Carbon
R676	EP14X103	10K ohm, 5%, l/4W, Carbon
R677	EP14X419	30K ohm, 5%, l/4W, Carbon
R678	EP14X285	15K ohm, 5%, l/8W, Carbon
R679	EP14X285	15K ohm, 5%, l/8W, Carbon
R680	EP14X285	15K ohm, 5%, l/8W, Carbon
R681	EP14X285	15K ohm, 5%, l/8W, Carbon
R682	EP14X285	15K ohm, 5%, l/8W, Carbon
R683	EP14X285	15K ohm, 5%, l/8W, Carbon
R684	EP14X193	47K ohm, 5%, l/8W, Carbon
R685	EP14X303	470 ohm, 5%, l/8W, Carbon
R687	EP14X426	36K ohm, 5%, l/4W, Carbon
R688	EP14X103	10K ohm, 5%, l/4W, Carbon
R689	EP14X284	10K ohm, 5%, l/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, l/8W, Carbon
R691	ES14X70	100 ohm, 5%, l/8W, Carbon
R692	EP14X193	47K ohm, 5%, l/8W, Carbon
R693	EP14X129	220 ohm, 5%, l/8W, Carbon
R694	ES14X70	100 ohm, 5%, l/8W, Carbon
R697	EP14X193	47K ohm, 5%, l/8W, Carbon
R698	EP14X193	47K ohm, 5%, l/8W, Carbon
R800	EP14X284	10K ohm, 5%, l/8W, Carbon
R801	EP14X284	10K ohm, 5%, l/8W, Carbon
R802	EP14X284	10K ohm, 5%, l/8W, Carbon
R803	EP14X284	10K ohm, 5%, l/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	VOLUME SET-250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. 9V REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM INTERFACE
IC601	EP84X234	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	-27V Clamp, PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X225	B+ Switch, PNP, Silicon
Q602	EP15X225	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	P Volume, NPN, Silicon
Q610	EP15X88	E/A Volume, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Relay Driver, NPN, Silicon
Q615	EP15X48	Reset, PNP, Silicon
Q800	EP15X87	EAROM Output Buffer, NPN, Silicon
Q801	EP15X48	EAROM Output Buffer, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener, 10V
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 5.1V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	ES16X27	Silicon

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP8X127	JACK-Phono
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X538

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X149	10µf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C508	EP25X131	.01µf, 10%, 50V, Polyester
C509	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C510	EP31X172	.47µf, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C521	EP18X290	12pf, 5%, 50V, Cer. Disc
C522	EP18X189	47pf, 5%, 50V, Cer. Disc
C600	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C602	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C603	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C604	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C605	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C606	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C607	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C608	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C609	EU22X216	.01µf, 10%, 50V, HiK, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7µf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C621	EP31X166	1µf, 20%, 50V, Elect.
C623	EP31X149	10µf, 20%, 35V, Elect.
C624	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.
C660	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C689	EP31X149	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X407	3.9K ohm, 5%, I/8W, Carbon
R102	ES14X58	470 ohm, 5%, I/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, IW, Metal Oxide
R105	EP14X182	68 ohm, 5%, I/4W, Carbon
R106	EP14X344	39 ohm, 5%, I/8W, Carbon
R202	EP14X284	10K ohm, 5%, I/8W, Carbon
R500	ES14X71	1K ohm, 5%, I/4W, Carbon
R501	EP14X284	1K ohm, 5%, I/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R503	EP14X284	1K ohm, 5%, I/8W, Carbon
R507	EP14X271	33K ohm, 5%, I/8W, Carbon
R508	EP14X430	4.7meg ohm, 5%, I/4W, Carbon
R509	EP14X271	33K ohm, 5%, I/8W, Carbon
R511	ES14X59	560 ohm, 5%, I/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, I/8W, Carbon
R513	EP14X284	10K ohm, 5%, I/8W, Carbon
R514	EP14X284	10K ohm, 5%, I/8W, Carbon
R515	ES14X71	1K ohm, 5%, I/4W, Carbon
R516	ES14X70	100 ohm, 5%, I/8W, Carbon
R517	EP14X427	200K ohm, 5%, I/8W, Carbon
R520	EP14X428	82 ohm, 5%, I/4W, Carbon
R603	EP14X284	10K ohm, 5%, I/8W, Carbon
R604	EP14X285	15K ohm, 5%, I/8W, Carbon
R605	ES14X54	1.2K ohm, 5%, I/8W, Carbon
R606	EP14X285	15K ohm, 5%, I/8W, Carbon
R607	EP14X379	5.6K ohm, 5%, I/4W, Carbon
R608	EP14X303	22K ohm, 5%, I/8W, Carbon
R609	EP14X104	22K ohm, 5%, I/4W, Carbon
R610	EP14X303	100K ohm, 5%, I/8W, Carbon
R611	EP14X303	100K ohm, 5%, I/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, I/4W, Carbon
R613	ES14X54	1.2K ohm, 5%, I/8W, Carbon
R614	ES14X54	1.2K ohm, 5%, I/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, I/4W, Carbon
R616	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R618	EP14X284	10K ohm, 5%, I/8W, Carbon
R619	EP14X284	10K ohm, 5%, I/8W, Carbon
R620	EP14X284	10K ohm, 5%, I/8W, Carbon
R621	EP14X284	10K ohm, 5%, I/8W, Carbon
R622	EP14X284	10K ohm, 5%, I/8W, Carbon
R623	EP14X284	10K ohm, 5%, I/8W, Carbon
R624	EP14X427	200K ohm, 5%, I/8W, Carbon
R625	EP14X427	200K ohm, 5%, I/8W, Carbon
R626	EP14X427	200K ohm, 5%, I/8W, Carbon
R627	EP14X427	200K ohm, 5%, I/8W, Carbon
R628	EP14X427	200K ohm, 5%, I/8W, Carbon
R629	EP14X427	200K ohm, 5%, I/8W, Carbon
R630	EP14X131	47K ohm, 5%, I/4W, Carbon
R631	EP14X284	10K ohm, 5%, I/8W, Carbon
R632	EP14X285	15K ohm, 5%, I/8W, Carbon
R633	EP14X285	15K ohm, 5%, I/8W, Carbon
R635	EP14X303	22K ohm, 5%, I/8W, Carbon
R636	EP14X193	47K ohm, 5%, I/8W, Carbon
R637	EP14X103	10K ohm, 5%, I/4W, Carbon
R638	EP14X284	1K ohm, 5%, I/8W, Carbon
R639	EP14X303	100K ohm, 5%, I/8W, Carbon
R641	EP14X271	33K ohm, 5%, I/8W, Carbon
R642	EP14X133	470K ohm, 5%, I/8W, Carbon
R643	EP14X284	10K ohm, 5%, I/8W, Carbon
R644	ES14X70	100 ohm, 5%, I/8W, Carbon
R645	EP14X271	33K ohm, 5%, I/8W, Carbon
R648	EP14X288	30K ohm, 5%, I/8W, Carbon
R649	ES14X71	1K ohm, 5%, I/4W, Carbon
R650	EP14X238	620 ohm, 5%, I/8W, Carbon
R651	EP14X238	620 ohm, 5%, I/8W, Carbon
R652	EP14X238	620 ohm, 5%, I/8W, Carbon
R653	EP14X238	620 ohm, 5%, I/8W, Carbon
R654	EP14X238	620 ohm, 5%, I/8W, Carbon
R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon

R659	EP14X238	620 ohm, 5%, l/8W, Carbon
R660	EP14X238	620 ohm, 5%, l/8W, Carbon
R661	EP14X238	620 ohm, 5%, l/8W, Carbon
R662	EP14X238	620 ohm, 5%, l/8W, Carbon
R663	EP14X238	620 ohm, 5%, l/8W, Carbon
R664	EP14X284	10K ohm, 5%, l/8W, Carbon
R665	EP14X284	10K ohm, 5%, l/8W, Carbon
R666	EP14X284	10K ohm, 5%, l/8W, Carbon
R667	EP14X131	47K ohm, 5%, l/4W, Carbon
R668	EP14X193	47K ohm, 5%, l/8W, Carbon
R669	EP14X303	22K ohm, 5%, l/8W, Carbon
R670	EP14X193	47K ohm, 5%, l/8W, Carbon
R671	EP14X103	10K ohm, 5%, l/4W, Carbon
R672	EP14X103	10K ohm, 5%, l/4W, Carbon
R673	EP14X103	10K ohm, 5%, l/4W, Carbon
R674	EP14X103	10K ohm, 5%, l/4W, Carbon
R675	EP14X103	10K ohm, 5%, l/4W, Carbon
R676	EP14X103	10K ohm, 5%, l/4W, Carbon
R677	EP14X193	47K ohm, 5%, l/4W, Carbon
R678	EP14X285	15K ohm, 5%, l/8W, Carbon
R679	EP14X285	15K ohm, 5%, l/8W, Carbon
R680	EP14X285	15K ohm, 5%, l/8W, Carbon
R681	EP14X285	15K ohm, 5%, l/8W, Carbon
R682	EP14X285	15K ohm, 5%, l/8W, Carbon
R683	EP14X285	15K ohm, 5%, l/8W, Carbon
R684	EP14X193	47K ohm, 5%, l/8W, Carbon
R685	EP14X303	470 ohm, 5%, l/8W, Carbon
R688	EP14X103	10K ohm, 5%, l/4W, Carbon
R689	EP14X284	10K ohm, 5%, l/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, l/8W, Carbon
R691	ES14X70	100 ohm, 5%, l/8W, Carbon
R692	EP14X193	47K ohm, 5%, l/8W, Carbon
R693	EP14X129	220 ohm, 5%, l/8W, Carbon
R694	ES14X70	100 ohm, 5%, l/8W, Carbon
R697	EP14X193	47K ohm, 5%, l/8W, Carbon
R698	EP14X193	47K ohm, 5%, l/8W, Carbon
R800	EP14X284	10K ohm, 5%, l/8W, Carbon
R801	EP14X284	10K ohm, 5%, l/8W, Carbon
R802	EP14X284	10K ohm, 5%, l/8W, Carbon
R803	EP14X284	10K ohm, 5%, l/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	VOLUME SET-250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL 9V REG.
IC500	EP84X243	PLL/PRESCALE
IC600	EP84X222	CUSTOM INTERFACE
IC601	EP84X244	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	-27V Clamp, PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	AFC Comparator, PNP, Silicon
Q607	EP15X88	AFC Comparator, NPN, Silicon
Q608	EP15X88	AFC Comparator, NPN, Silicon
Q609	EP15X88	P Volume, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Relay Driver, NPN, Silicon
Q615	EP15X48	Reset, PNP, Silicon
Q800	EP15X87	Earom Output Buffer, NPN, Silicon
Q801	EP15X48	Earom Output Buffer, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener, 10V
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%
X500	EP41X68	CRYSTAL-Qtz. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X541

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	31X45	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X149	10µf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047µf, 10%, 50V, Polyester
C509	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C600	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01µf, 10%, 50V, HiK, Cer. Disc
C605	EU22X216	.01µf, +80-20%, 50V,Hik, Cer. Disc
C606	EU22X216	.01µf, +80-20%, 50V,Hik, Cer. Disc
C607	EU22X216	.01µf, +80-20%, 50V,Hik, Cer. Disc
C608	EU22X216	.01µf, +80-20%, 50V,Hik, Cer. Disc
C609	EU22X216	.01µf, +80-20%, 50V,Hik, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7µf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C620	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C621	EP31X166	1µf, 20%, 50V, Elect.
C622	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C623	EP31X149	10µf, 20%, 35V, Elect.
C624	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X149	10µf, 20%, 35V, Elect.
C689	EP31X149	10µf, 20%, 35V, Elect.
C660	EP18X287	.022µf, +80-20%, 50V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X407	3.9K ohm, 5%, I/8W, Carbon
R102	ES14X58	470 ohm, 5%, I/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, IW, Metal Oxide
R105	EP14X182	68 ohm, 5%, I/4W, Carbon
R106	EP14X344	39 ohm, 5%, I/8W, Carbon
R202	EP14X284	10K ohm, 5%, I/8W, Carbon
R500	ES14X71	1K ohm, 5%, I/4W, Carbon
R501	EP14X284	1K ohm, 5%, I/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R503	EP14X284	1K ohm, 5%, I/8W, Carbon
R507	EP14X271	33K ohm, 5%, I/8W, Carbon
R508	EP14X430	4.7meg ohm, 10%, I/4W, Carbon
R509	EP14X271	33K ohm, 5%, I/8W, Carbon
R511	ES14X59	560 ohm, 5%, I/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, I/8W, Carbon
R513	EP14X284	10K ohm, 5%, I/8W, Carbon
R514	EP14X284	10K ohm, 5%, I/8W, Carbon
R515	ES14X71	1K ohm, 5%, I/4W, Carbon
R516	ES14X70	100 ohm, 5%, I/8W, Carbon
R517	EP14X427	200K ohm, 5%, I/8W, Carbon
R520	EP14X428	82 ohm, 5%, I/4W, Carbon
R603	EP14X284	10K ohm, 5%, I/8W, Carbon
R604	EP14X285	15K ohm, 5%, I/8W, Carbon
R605	ES14X54	1.2K ohm, 5%, I/8W, Carbon
R606	EP14X285	15K ohm, 5%, I/8W, Carbon
R607	EP14X379	5.6K ohm, 5%, I/4W, Carbon
R608	EP14X303	22K ohm, 5%, I/8W, Carbon
R609	EP14X104	22K ohm, 5%, I/4W, Carbon
R610	EP14X303	100K ohm, 5%, I/8W, Carbon
R611	EP14X303	100K ohm, 5%, I/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, I/4W, Carbon
R613	ES14X54	1.2K ohm, 5%, I/8W, Carbon
R614	ES14X54	1.2K ohm, 5%, I/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, I/4W, Carbon
R616	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, I/8W, Carbon
R618	EP14X284	10K ohm, 5%, I/8W, Carbon
R619	EP14X284	10K ohm, 5%, I/8W, Carbon
R620	EP14X284	10K ohm, 5%, I/8W, Carbon
R621	EP14X284	10K ohm, 5%, I/8W, Carbon
R622	EP14X284	10K ohm, 5%, I/8W, Carbon
R623	EP14X284	10K ohm, 5%, I/8W, Carbon
R624	EP14X427	200K ohm, 5%, I/8W, Carbon
R625	EP14X427	200K ohm, 5%, I/8W, Carbon
R626	EP14X427	200K ohm, 5%, I/8W, Carbon
R627	EP14X427	200K ohm, 5%, I/8W, Carbon
R628	EP14X427	200K ohm, 5%, I/8W, Carbon
R629	EP14X427	200K ohm, 5%, I/8W, Carbon
R630	EP14X131	47K ohm, 5%, I/4W, Carbon
R631	EP14X284	10K ohm, 5%, I/8W, Carbon
R632	EP14X285	15K ohm, 5%, I/8W, Carbon
R633	EP14X285	15K ohm, 5%, I/8W, Carbon
R635	EP14X303	22K ohm, 5%, I/8W, Carbon
R636	EP14X193	47K ohm, 5%, I/8W, Carbon
R637	EP14X103	10K ohm, 5%, I/4W, Carbon
R638	EP14X284	1K ohm, 5%, I/8W, Carbon
R639	EP14X303	100K ohm, 5%, I/8W, Carbon
R641	EP14X271	33K ohm, 5%, I/8W, Carbon
R642	EP14X133	470K ohm, 5%, I/8W, Carbon
R643	EP14X284	10K ohm, 5%, I/8W, Carbon
R644	ES14X70	100 ohm, 5%, I/8W, Carbon

R645	EP14X271	33K ohm, 5%, I/8W, Carbon
R648	EP14X288	30K ohm, 5%, I/8W, Carbon
R649	ES14X71	1K ohm, 5%, I/4W, Carbon
R650	EP14X238	620 ohm, 5%, I/8W, Carbon
R651	EP14X238	620 ohm, 5%, I/8W, Carbon
R652	EP14X238	620 ohm, 5%, I/8W, Carbon
R653	EP14X238	620 ohm, 5%, I/8W, Carbon
R654	EP14X238	620 ohm, 5%, I/8W, Carbon
R655	EP14X238	620 ohm, 5%, I/8W, Carbon
R656	EP14X238	620 ohm, 5%, I/8W, Carbon
R657	EP14X238	620 ohm, 5%, I/8W, Carbon
R658	EP14X238	620 ohm, 5%, I/8W, Carbon
R659	EP14X238	620 ohm, 5%, I/8W, Carbon
R660	EP14X238	620 ohm, 5%, I/8W, Carbon
R661	EP14X238	620 ohm, 5%, I/8W, Carbon
R662	EP14X238	620 ohm, 5%, I/8W, Carbon
R663	EP14X238	620 ohm, 5%, I/8W, Carbon
R664	EP14X284	10K ohm, 5%, I/8W, Carbon
R665	EP14X284	10K ohm, 5%, I/8W, Carbon
R666	EP14X284	10K ohm, 5%, I/8W, Carbon
R667	EP14X131	47K ohm, 5%, I/4W, Carbon
R668	EP14X193	47K ohm, 5%, I/8W, Carbon
R669	EP14X303	22K ohm, 5%, I/8W, Carbon
R670	EP14X193	47K ohm, 5%, I/8W, Carbon
R671	EP14X103	10K ohm, 5%, I/4W, Carbon
R672	EP14X103	10K ohm, 5%, I/4W, Carbon
R673	EP14X103	10K ohm, 5%, I/4W, Carbon
R674	EP14X103	10K ohm, 5%, I/4W, Carbon
R675	EP14X103	10K ohm, 5%, I/4W, Carbon
R676	EP14X103	10K ohm, 5%, I/4W, Carbon
R677	EP14X419	30K ohm, 5%, I/4W, Carbon
R678	EP14X285	15K ohm, 5%, I/8W, Carbon
R679	EP14X285	15K ohm, 5%, I/8W, Carbon
R680	EP14X285	15K ohm, 5%, I/8W, Carbon
R681	EP14X285	15K ohm, 5%, I/8W, Carbon
R682	EP14X285	15K ohm, 5%, I/8W, Carbon
R683	EP14X285	15K ohm, 5%, I/8W, Carbon
R684	EP14X193	47K ohm, 5%, I/8W, Carbon
R685	EP14X303	470 ohm, 5%, I/8W, Carbon
R687	EP14X426	36K ohm, 5%, I/4W, Carbon
R688	EP14X103	10K ohm, 5%, I/4W, Carbon
R689	EP14X284	10K ohm, 5%, I/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, I/8W, Carbon
R691	ES14X70	100 ohm, 5%, I/8W, Carbon
R692	EP14X193	47K ohm, 5%, I/8W, Carbon
R693	EP14X129	220 ohm, 5%, I/8W, Carbon
R694	ES14X70	100 ohm, 5%, I/8W, Carbon
R697	EP14X193	47K ohm, 5%, I/8W, Carbon
R698	EP14X193	47K ohm, 5%, I/8W, Carbon
R800	EP14X284	10K ohm, 5%, I/8W, Carbon
R801	EP14X284	10K ohm, 5%, I/8W, Carbon
R802	EP14X284	10K ohm, 5%, I/8W, Carbon
R803	EP14X284	10K ohm, 5%, I/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	VOLUME SET-250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. 9V REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM INTERFACE
IC601	EP84X234	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	-27V Clamp, PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q601	EP15X225	B+ Switch, PNP, Silicon
Q602	EP15X225	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	P Volume, NPN, Silicon
Q610	EP15X88	E/A Volume, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Relay Driver, NPN, Silicon
Q615	EP15X48	Reset, PNP, Silicon
Q800	EP15X87	EAROM Output Buffer, NPN, Silicon
Q801	EP15X48	EAROM Output Buffer, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener, 10V
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L110	EP36X33	CHOKE-56μh, 5%
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP8X127	JACK-Phono
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X566

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47μf, 20%, 50V, Elect.
C101	EP31X162	100μf, 20%, 25V, Elect.
C102	EP31X163	47μf, 20%, 25V, Elect.
C103	EP31X150	10μf, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X32	.01μf, 10%, 50V, HiK, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C508	EP25X131	.01μf, 10%, 50V, Polyester
C509	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C510	EP31X172	.47μf, 20%, 50V, Elect.
C511	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01μf, 10%, 50V, Polyester
C521	EP18X188	33pf, 5%, 50V, NPO, Cer. Disc
C522	EP18X188	33pf, 5%, 50V, NPO, Cer. Disc
C600	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01μf, 10%, 50V, HiK, Cer. Disc
C605	ES22X32	.01μf, +80-20%, 50V,Hik, Cer. Disc
C606	ES22X32	.01μf, +80-20%, 50V,Hik, Cer. Disc
C607	ES22X32	.01μf, +80-20%, 50V,Hik, Cer. Disc
C608	ES22X32	.01μf, +80-20%, 50V,Hik, Cer. Disc
C609	ES22X32	.01μf, +80-20%, 50V,Hik, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X144	4.7μf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C621	EP31X166	1μf, 20%, 50V, Elect.
C623	EP31X150	10μf, 20%, 35V, Elect.
C624	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022μf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2μf, 20%, 50V, Elect.
C650	EP31X150	10μf, 20%, 35V, Elect.
C689	EP31X150	10μf, 20%, 35V, Elect.
C660	EP18X287	.022μf, +80-20%, 50V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X437	3.9K ohm, 5%, l/8W, Carbon
R102	ES14X58	470 ohm, 5%, l/4W, Carbon
R103	EP14X480	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, lW, Metal Oxide
R105	EP14X182	68 ohm, 5%, l/4W, Carbon
R106	EP14X434	39 ohm, 5%, l/8W, Carbon
R202	EP14X284	10K ohm, 5%, l/8W, Carbon
R501	EP14X284	1K ohm, 5%, l/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R507	EP14X285	15K ohm, 5%, l/8W, Carbon
R508	EP14X430	4.7meg ohm, 10%, l/4W, Carbon
R509	EP14X271	33K ohm, 5%, l/8W, Carbon
R511	ES14X59	560 ohm, 5%, l/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, l/8W, Carbon
R513	EP14X284	10K ohm, 5%, l/8W, Carbon
R514	EP14X284	10K ohm, 5%, l/8W, Carbon
R515	ES14X71	1K ohm, 5%, l/4W, Carbon
R516	ES14X70	100 ohm, 5%, l/8W, Carbon
R517	EP14X427	200K ohm, 5%, l/8W, Carbon
R520	EP14X428	82 ohm, 5%, l/4W, Carbon
R599	EP14X414	18K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, l/8W, Carbon
R604	EP14X285	15K ohm, 5%, l/8W, Carbon
R605	ES14X54	1.2K ohm, 5%, l/8W, Carbon
R606	EP14X285	15K ohm, 5%, l/8W, Carbon
R607	EP14X379	5.6K ohm, 5%, l/4W, Carbon
R608	EP14X303	22K ohm, 5%, l/8W, Carbon
R609	EP14X104	22K ohm, 5%, l/4W, Carbon
R610	EP14X303	100K ohm, 5%, l/8W, Carbon
R611	EP14X303	100K ohm, 5%, l/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, l/4W, Carbon
R613	ES14X54	1.2K ohm, 5%, l/8W, Carbon
R614	ES14X54	1.2K ohm, 5%, l/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, l/4W, Carbon
R616	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, l/8W, Carbon
R618	EP14X284	10K ohm, 5%, l/8W, Carbon
R619	EP14X284	10K ohm, 5%, l/8W, Carbon
R620	EP14X284	10K ohm, 5%, l/8W, Carbon
R621	EP14X284	10K ohm, 5%, l/8W, Carbon
R622	EP14X284	10K ohm, 5%, l/8W, Carbon
R623	EP14X284	10K ohm, 5%, l/8W, Carbon
R624	EP14X427	200K ohm, 5%, l/8W, Carbon
R625	EP14X427	200K ohm, 5%, l/8W, Carbon
R626	EP14X427	200K ohm, 5%, l/8W, Carbon
R627	EP14X427	200K ohm, 5%, l/8W, Carbon
R628	EP14X427	200K ohm, 5%, l/8W, Carbon
R629	EP14X427	200K ohm, 5%, l/8W, Carbon
R630	EP14X125	47K ohm, 5%, l/4W, Carbon
R631	EP14X284	10K ohm, 5%, l/8W, Carbon
R632	EP14X285	15K ohm, 5%, l/8W, Carbon
R633	EP14X285	15K ohm, 5%, l/8W, Carbon
R635	EP14X303	22K ohm, 5%, l/8W, Carbon
R636	EP14X193	47K ohm, 5%, l/8W, Carbon
R637	EP14X103	10K ohm, 5%, l/4W, Carbon
R638	EP14X284	1K ohm, 5%, l/8W, Carbon
R639	EP14X303	100K ohm, 5%, l/8W, Carbon
R641	EP14X271	33K ohm, 5%, l/8W, Carbon
R642	EP14X133	470K ohm, 5%, l/8W, Carbon
R643	EP14X284	10K ohm, 5%, l/8W, Carbon
R644	ES14X70	100 ohm, 5%, l/8W, Carbon
R645	EP14X271	33K ohm, 5%, l/8W, Carbon
R648	EP14X419	30K ohm, 5%, l/8W, Carbon
R649	ES14X71	1K ohm, 5%, l/4W, Carbon
R650	EP14X238	620 ohm, 5%, l/8W, Carbon
R651	EP14X238	620 ohm, 5%, l/8W, Carbon
R652	EP14X238	620 ohm, 5%, l/8W, Carbon
R653	EP14X238	620 ohm, 5%, l/8W, Carbon
R654	EP14X238	620 ohm, 5%, l/8W, Carbon
R655	EP14X238	620 ohm, 5%, l/8W, Carbon
R656	EP14X238	620 ohm, 5%, l/8W, Carbon
R657	EP14X238	620 ohm, 5%, l/8W, Carbon
R658	EP14X238	620 ohm, 5%, l/8W, Carbon
R659	EP14X238	620 ohm, 5%, l/8W, Carbon
R660	EP14X238	620 ohm, 5%, l/8W, Carbon
R661	EP14X238	620 ohm, 5%, l/8W, Carbon
R662	EP14X238	620 ohm, 5%, l/8W, Carbon
R663	EP14X238	620 ohm, 5%, l/8W, Carbon
R664	EP14X284	10K ohm, 5%, l/8W, Carbon
R665	EP14X284	10K ohm, 5%, l/8W, Carbon

R666	EP14X284	10K ohm, 5%, l/8W, Carbon
R667	EP14X125	47K ohm, 5%, l/4W, Carbon
R668	EP14X193	47K ohm, 5%, l/8W, Carbon
R669	EP14X303	22K ohm, 5%, l/8W, Carbon
R670	EP14X193	47K ohm, 5%, l/8W, Carbon
R671	EP14X103	10K ohm, 5%, l/4W, Carbon
R672	EP14X103	10K ohm, 5%, l/4W, Carbon
R673	EP14X103	10K ohm, 5%, l/4W, Carbon
R674	EP14X284	10K ohm, 5%, l/8W, Carbon
R675	EP14X103	10K ohm, 5%, l/4W, Carbon
R676	EP14X284	10K ohm, 5%, l/8W, Carbon
R677	EP14X386	51K ohm, 5%, l/4W, Carbon
R678	EP14X285	15K ohm, 5%, l/8W, Carbon
R679	EP14X285	15K ohm, 5%, l/8W, Carbon
R680	EP14X285	15K ohm, 5%, l/8W, Carbon
R685	EP14X303	470 ohm, 5%, l/8W, Carbon
R687	EP14X104	22K ohm, 5%, l/4W, Carbon
R688	EP14X103	10K ohm, 5%, l/4W, Carbon
R689	EP14X284	10K ohm, 5%, l/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, l/8W, Carbon
R691	ES14X70	100 ohm, 5%, l/8W, Carbon
R692	EP14X193	47K ohm, 5%, l/8W, Carbon
R693	EP14X318	220 ohm, 5%, l/8W, Carbon
R694	ES14X70	100 ohm, 5%, l/8W, Carbon
R697	EP14X193	47K ohm, 5%, l/8W, Carbon
R698	EP14X193	47K ohm, 5%, l/8W, Carbon
R800	EP14X284	10K ohm, 5%, l/8W, Carbon
R801	EP14X284	10K ohm, 5%, l/8W, Carbon
R802	EP14X284	10K ohm, 5%, l/8W, Carbon
R803	EP14X284	10K ohm, 5%, l/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. 9V REG.
IC501	EP84X257	PLL/PRESCALE
IC600	EP84X222	CUSTOM INTERFACE
IC601	EP84X244	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	-27V Clamp, PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q601	EP15X225	B+ Switch, PNP, Silicon
Q602	EP15X225	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	P Volume, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Relay Driver, NPN, Silicon
Q615	EP15X48	Reset, PNP, Silicon
Q800	EP15X87	EAROM Output Buffer, NPN, Silicon
Q801	EP15X48	EAROM Output Buffer, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener, 10V
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X163	Zener, 30V
Y110	EU16X11	Silicon
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	ES16X27	Silicon

COILS

REF. NO.	PART NO.	DESCRIPTION
L501	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP8X127	JACK-Phono
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X589

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47µf, 20%, 50V, Elect.
C101	EP31X162	100µf, 20%, 25V, Elect.
C102	EP31X163	47µf, 20%, 25V, Elect.
C103	EP31X150	10µf, 20%, 35V, Elect.
C104	ES22X6	1000pf, +80-20%, 50V, HiK, Cer. Disc
C105	ES22X6	1000pf, +80-20%, 50V, HiK, Cer. Disc
C106	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C500	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, +80-20%, 50V, HiK, Cer. Disc
C504	ES22X6	1000pf, +80-20%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, +80-20%, 50V, HiK, Cer. Disc
C506	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C508	EP25X87	.047µf, 10%, 50V, Polyester
C509	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1µf, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C516	EP25X131	.01µf, 10%, 50V, Polyester
C600	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C603	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C604	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C605	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C606	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C607	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C608	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C609	EP18X262	.01µf, 10%, 50V, SHiK, Cer. Disc
C610	EP17X2	470pf, 10%, 50V, Cer. Chip
C611	EP31X144	4.7µf, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 5%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 5%, 50V, NPO, Cer. Disc
C621	EP31X166	1µf, 20%, 50V, Elect.
C623	EP31X150	10µf, 20%, 35V, Elect.
C624	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2µf, 20%, 50V, Elect.
C650	EP31X150	10µf, 20%, 35V, Elect.
C660	EP18X287	.022µf, +80-20%, 50V, Cer. Disc
C689	EP31X150	10µf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X437	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	EP14X480	1.8K ohm, 5%, 1/2W, Metal Oxide
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	EP14X434	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/4W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	EP14X430	4.7 meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	EP14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/4W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	EP14X427	200K ohm, 5%, 1/8W, Carbon
R520	EP14X428	82 ohm, 5%, 1/4W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/4W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R613	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R614	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X427	200K ohm, 5%, 1/8W, Carbon
R625	EP14X427	200K ohm, 5%, 1/8W, Carbon
R626	EP14X427	200K ohm, 5%, 1/8W, Carbon
R627	EP14X427	200K ohm, 5%, 1/8W, Carbon
R628	EP14X427	200K ohm, 5%, 1/8W, Carbon
R629	EP14X427	200K ohm, 5%, 1/8W, Carbon
R630	EP14X131	47K ohm, 5%, 1/4W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/4W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	100K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%. 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	EP14X419	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/4W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon

R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X131	47K ohm, 5%, 1/4W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/4W, Carbon
R672	EP14X103	10K ohm, 5%, 1/4W, Carbon
R673	EP14X103	10K ohm, 5%, 1/4W, Carbon
R674	EP14X103	10K ohm, 5%, 1/4W, Carbon
R675	EP14X103	10K ohm, 5%, 1/4W, Carbon
R676	EP14X103	10K ohm, 5%, 1/4W, Carbon
R677	EP14X386	51K ohm, 5%, 1/4W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R688	EP14X103	10K ohm, 5%, 1/4W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	EP14X318	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R696	EP14X103	10K ohm, 5%, 1/4W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	TRIMMER-250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOLTAGE REGULATOR
IC500	EP84X220	PRESCALER/PLL
IC600	EP84X222	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Silicon, NPN
Q202	EP15X48	Silicon, PNP
Q502	EP15X109	Silicon, NPN
Q503	EP15X87	Silicon, NPN
Q601	EP15X225	Silicon, PNP
Q602	EP15X225	Silicon, PNP
Q603	EP15X87	Silicon, NPN
Q604	EP15X48	Silicon, PNP
Q605	EP15X48	Silicon, PNP
Q606	EP15X48	Silicon, PNP
Q607	EP15X88	Silicon, NPN
Q608	EP15X88	Silicon, NPN
Q609	EP15X88	Silicon, NPN
Q611	EP15X48	Silicon, PNP
Q612	EP15X48	Silicon, PNP
Q614	EP15X87	Silicon, NPN
Q615	EP15X48	Silicon, PNP
Q800	EP15X87	Silicon, NPN
Q801	EP15X48	Silicon, PNP

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener, 10V
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X163	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	ES16X27	Silicon

COILS

REF. NO.	PART NO.	DESCRIPTION
L110	EP36X33	CHOKE-56μh, 5%
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qtz Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP8X127	JACK-Phono
EP34X41	SOCKET-Transistor

REMOTE CONTROL TRANSMITTER ASM

EP62X164

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC901	EP84X232	IC-Remote Control Transmitter

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared
Y904	ES16X27	Silicon

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-I.5V, AAA
EP47X55	BUTTON-On/Off, Mute/Vol. Up & Down Channel Up & Down/Add/Clear
EP2X569	CLIPS-Battary Contacts, Positive, Negative & Bridge
EP47X57	CAP-Program Switch
EP4X370	CASE-Top, Bottom, Battery Cover, W/Medallion
EP4X371	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE CONTROL TRANSMITTER ASM

EP62X165

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC901	EP84X232	IC-Remote Control Transmitter

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared
Y904	ES16X27	Silicon

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-I.5V, AAA
EP47X55	BUTTON-On/Off, Mute/Vol. Up & Down Channel Up & Down/Add/Clear
EP2X569	CLIPS-Battary Contacts, Positive, Negative & Bridge
EP47X56	BUTTON-Enter
EP47X57	CAP-Program Switch
EP4X372	CASE-Top, Bottom, Battery Cover, W/Medallion
EP4X373	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE CONTROL TRANSMITTER ASM

EP62X179

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC901	EP84X232	IC-Remote Control Transmitter

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared
Y904	ES16X27	Silicon

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-I.5V, AAA
EP47X55	BUTTON-On/Off, Mute/Vol. Up & Down Channel Up & Down/Add/Clear etc.
EP2X569	CLIPS-Battary Contacts, Positive, Negative, & Bridge
EP4X56	BUTTON-Enter
EP47X57	CAP-Program Switch
EP4X428	CASE-Top, Bottom, & Battery Cover
EP4X373	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE CONTROL TRANSMITTER ASM

EP62X195

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC901	EP84X232	IC-Remote Control Transmitter

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-I.5V, AAA
EP47X55	BUTTON-On/Off, Vol. Up & Down Channel Up & Down, Add /Clear etc.
EP47X56	BUTTON-Enter
EP2X569	CLIPS-Battary Contacts, Positive,
EP47X67	CAP-Program Switch, W/Switch Contact
EP4X505	CASE-Top, Bottom, & Battery Cover
EP4X373	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE CONTROL TRANSMITTER ASM

EP62X196

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC901	EP84X232	IC-Remote Control Transmitter

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
CI901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-I.5V, AAA
EP47X55	BUTTON-On/Off, Mute/Vol. Up & Down, Channel Up & Down/ Add/Clear, etc.
EP2X569	CLIPS-Battary Contacts, Positive, Negative & Bridge
EP47X67	BUTTON-Enter
EP47X57	CAP-Program Switch
EP4X469	CASE-Top, Bottom, Battery Cover, W/Medallion
EP4X470	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE CONTROL TRANSMITTER ASM

EP62X197

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC901	EP84X232	IC-Remote Control Transmitter

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-I.5V, AAA
EP47X55	BUTTON-On/Off, Mute/Vol. Up & Down, Channel Up & Down/ Add/Clear, etc.
EP47X56	BUTTON-Enter
EP47X67	BUTTON-Program Lock, W/Switch Contact
EP47X57	CAP-Program Switch
EP4X485	CASE-Top, Bottom, & Battery Cover
EP2X569	CLIPS-Battary Contacts, Positive, Negative & Bridge
EP4X470	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE CONTROL
TRANSMITTER ASM

EP62X198

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC901	EP84X232	IC-Remote Control Transmitter

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-l.5V, AAA
EP47X55	BUTTON-On/Off, Vol. Up & Down, Channel Up & Down, Add /Clear etc.
EP4X56	BUTTON-Enter
EP2X569	CLIPS-Battary Contacts, Positive, Negative, & Bridge
EP47X67	CAP-Program Switch, W/Switch Contact
EP4X507	CASE-Top, Bottom, & Battery Cover
EP4X470	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE CONTROL RECEIVER CIRCUIT BOARD

EP93X417

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C701	EP31X149	10μf, 20%, 35V, Elect.
C702	EP31X149	10μf, 20%, 35V, Elect.
C703	EP31X149	10μf, 20%, 35V, Elect.
C704	EP25X156	3300pf, 5%, 100V, Polypropylene
C705	EP31X163	47μf, 20%, 16V, Elect.
C706	EP25X157	.033μf, 20%, 50V, Polyester
C707	EP18X204	470pf, 10%, 50V, HiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R701	EP14X284	IK ohm, 5%, I/8W, Carbon
R702	Common	150K ohm, 5%, I/8W, Carbon
R703	Common	51 ohm, 5%, I/8W, Carbon
R704	EP14X303	100K ohm, 5%, I/8W, Carbon
R705	ES14X70	100 ohm, 5%, I/8W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC701	EP84X227	Infrared Preamplifier

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y701	EP16X135	Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L701	EP36X447	COIL-Tuning

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL245	EP8X67	CONNECTOR-4 Pos.
	EP2X552	LENS-Remote Control

REMOTE CONTROL RECEIVER CIRCUIT BOARD

EP93X475

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C701	EP31X149	10μf, 20%, 35V, Elect.
C702	EP31X149	10μf, 20%, 35V, Elect.
C703	EP31X163	47μf, 20%, 16V, Elect.
C704	EP25X156	3300pf, 5%, 100V, Polypropylene
C705	EP31X163	47μf, 20%, 16V, Elect.
C706	EP25X77	.1μf, 20%, 50V, Polyester
C707	EP18X204	470pf, 10%, 50V, HiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R701	EP14X284	IK ohm, 5%, I/8W, Carbon
R702	Common	62K ohm, 5%, I/8W, Carbon
R703	EP14X188	15 ohm, 5%, I/8W, Carbon
R704	EP14X104	22K ohm, 5%, I/8W, Carbon
R705	EP14X187	100 ohm, 5%, I/8W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC701	EP84X227	Infrared Preamplifier

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y701	EP16X135	Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L701	EP36X447	COIL-Tuning

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL245	EP8X67	CONNECTOR-4 Pos.
	EP2X552	LENS-Remote Control

REMOTE CONTROL RECEIVER CIRCUIT BOARD

EP93X476

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C701	EP31X35	10μf, 20%, 35V, Elect.
C702	EP31X35	10μf, 20%, 35V, Elect.
C703	EP31X163	47μf, 20%, 16V, Elect.
C704	EP25X156	3300pf, 5%, 100V, Polypropylene
C705	EP31X163	47μf, 20%, 16V, Elect.
C706	EP25X77	.1μf, 20%, 50V, Polyester
C707	EP18X204	470pf, 10%, 50V, HiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R701	EP14X284	IK ohm, 5%, I/8W, Carbon
R702	Common	62K ohm, 5%, I/8W, Carbon
R703	EP14X188	15 ohm, 5%, I/8W, Carbon
R704	EP14X104	33K ohm, 5%, I/8W, Carbon
R705	EP14X187	100 ohm, 5%, I/8W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC701	EP84X227	Infrared Preamplifier

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y701	EP16X135	Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L701	EP36X447	COIL-Tuning

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL245	EP8X67	CONNECTOR-4 Pos.
	EP2X552	LENS-Remote Control

REMOTE CONTROL RECEIVER CIRCUIT BOARD

EP93X478

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C701	EP31X35	10μf, 20%, 35V, Elect.
C702	EP31X35	10μf, 20%, 35V, Elect.
C703	EP31X163	47μf, 20%, 16V, Elect.
C704	EP25X156	3300pf, 5%, 100V, Polypropylene
C705	EP31X163	47μf, 20%, 16V, Elect.
C706	EP25X77	.1μf, 20%, 50V, Polyester
C707	EP18X204	470pf, 10%, 50V, HiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R701	EP14X284	IK ohm, 5%, I/8W, Carbon
R702	Common	62K ohm, 5%, I/8W, Carbon
R703	EP14X188	15 ohm, 5%, I/8W, Carbon
R704	EP14X104	33K ohm, 5%, I/8W, Carbon
R705	EP14X187	100 ohm, 5%, I/8W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC701	EP84X227	Infrared Preamplifier

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y701	EP16X135	Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L701	EP36X447	COIL-Tuning

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL245	EP8X67	CONNECTOR-4 Pos.
	EP2X552	LENS-Remote Control

REMOTE CONTROL RECEIVER CIRCUIT BOARD

EP93X479

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C701	EP31X35	10μf, 20%, 35V, Elect.
C702	EP31X35	10μf, 20%, 35V, Elect.
C703	EP31X163	47μf, 20%, 16V, Elect.
C704	EP25X156	3300pf, 5%, 100V, Polypropylene
C705	EP31X163	47μf, 20%, 16V, Elect.
C706	EP25X77	.1μf, 20%, 50V, Polyester
C707	EP18X204	470pf, 10%, 50V, HiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R701	EP14X284	IK ohm, 5%, I/8W, Carbon
R702	Common	62K ohm, 5%, I/8W, Carbon
R703	EP14X188	15 ohm, 5%, I/8W, Carbon
R704	EP14X104	33K ohm, 5%, I/8W, Carbon
R705	EP14X187	100 ohm, 5%, I/8W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC701	EP84X227	Infrared Preamplifier

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y701	EP16X135	Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L701	EP36X447	COIL-Tuning

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL245	EP8X67	CONNECTOR-4 Pos.
	EP2X552	LENS-Remote Control

REMOTE CONTROL RECEIVER CIRCUIT BOARD

EP93X480/EP93X481/ EP93X482/EP93X483

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C701	EP31X149	10μf, 20%, 35V, Elect.
C702	EP31X149	10μf, 20%, 35V, Elect.
C703	EP31X149	10μf, 20%, 35V, Elect.
C704	EP25X156	3300pf, 5%, 100V, Polypropylene
C705	EP31X162	100μf, 20%, 25V, Elect.
C706	EP25X157	.033μf, 20%, 50V, Polyester
C707	EP18X204	470pf, 10%, 50V, HiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R701	EP14X284	IK ohm, 5%, I/8W, Carbon
R702	EP14X105	100K ohm, 5%, I/4W, Carbon
R703	EP14X441	24 ohm, 5%, I/4W, Carbon
R704	EP14X105	100K ohm, 5%, I/4W, Carbon
R705	ES14X70	100 ohm, 5%, I/4W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC701	EP84X227	Infrared Preamplifier

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y701	EP16X157	Photo, Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L701	EP36X447	COIL-Tuning

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL245	EP8X67	CONNECTOR-4 Pos.
	EP2X552	LENS-Remote Control

TROUBLESHOOTING SECTION

Electronic Tuning System

INDEX TO ELECTRONIC TUNING SYSTEM TROUBLESHOOTING CHARTS

USE THE CHART FOR THE SYMPTOM THAT MOST CLOSELY APPROXIMATES THE CONDITION OF THE RECEIVER UNDER REPAIR.

112 UHF/VHF TUNER BANDSWITCHING VOLTAGES AND CABLE FREQUENCIES CHART

	LO-VHF (CHANNEL 2-6) CABLE 64-66	HI-VHF (CHANNEL 7-13) & CABLE MIDBAND A-2, A-1, (A - I) CH. 60, 61, (14 - 22)	CABLE SUPERBAND CH. 23 - 36 (J - W) CABLE HYPERBAND CH. 37 - 41	UHF (CHANNEL 14 - 83)
RECEIVING BAND	BAND I	BAND II	BAND III	BAND IV
SW1 +/-10%	-15V	-15V	+9V	-15V
SW2 +/-10%	-15V	+9V	+9V	+9V
VHF RF & OSC B+ +/-10%	+12V	+12V	+12V	0V
MIXER B+ +/-10%	+12V	+12V	+12V	+12V
UHF B+ +/-10%	0V	0V	0V	+12V
AGC @ MAX GAIN	0.0V	0.0V	0.0V	0.0V
TUNING VOLTAGE	0-30	0-30	0-30	0-30

112 CABLE CHANNEL CHART

FREQ SPECTRUM	54MHz TO 88MHz	108MHz TO 174MHz	174MHz TO 216MHz	216MHz TO 300MHz	300MHz TO 330MHz	470MHz TO 890MHz
CHANNEL BAND	LO VHF 2-6	MID BAND CABLE (A-2)—I	HI VHF 7-13	SUPER BAND CABLE J-W	HYPERBAND CABLE AA-EE	UHF 14-83
TV CHANNEL NUMBER INDICATOR	2-6	60 (A-2) 61 (A-1) 14-22 (A-I)	7-13	23-36	37-41	14-83

130 UHF/VHF TUNER BANDSWITCHING VOLTAGES AND CABLE FREQUENCIES CHART

	LO-VHF (CHANNEL 2-6) CABLE 64-66	HI-VHF (CHANNEL 7-13) & CABLE MIDBAND A-2, A-1, (A - I) CH. 60, 61, (14 - 22)	CABLE SUPERBAND CH. 23 - 36 (J - W) CABLE HYPERBAND CH. 37 - 59	UHF (CHANNEL 14 - 83)
RECEIVING BAND	BAND I	BAND II	BAND III	BAND IV
SW1 +/-10%	-15V	-15V	+9V	-15V
SW2 +/-10%	-15V	+9V	+9V	+9V
VHF RF & OSC B+ +/-10%	+12V	+12V	+12V	0V
MIXER B+ +/-10%	+12V	+12V	+12V	+12V
UHF B+ +/-10%	0V	0V	0V	+12V
AGC @ MAX GAIN	0.0V	0.0V	0.0V	0.0V
TUNING VOLTAGE	0-30	0-30	0-30	0-30

130 CABLE CHANNEL CHART						
FREQ SPECTRUM	54MHz TO 88MHz	108MHz TO 174MHz	174MHz TO 216MHz	216MHz TO 300MHz	300MHz TO 438MHz	470MHz TO 890MHz
CHANNEL BAND	LO VHF 2-6	MID BAND CABLE (A-2)—I	HI VHF 7-13	SUPER BAND CABLE J-W	HYPERBAND CABLE AA-WW	UHF 14-83
TV CHANNEL NUMBER INDICATOR	2-6	60 (A-2) 61 (A-1) 14-22 (A-I)	7-13	23-36	37-59	14-83

25 PC CHASSIS

COMPONENT LAYOUTS

SCHEMATIC DIAGRAMS

AND REPLACEMENT PARTS LISTS

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

PC CHASSIS

25PC CHASSIS CIRCUIT BOARDS/MODULES/SCHEMATICS INDEX

Section 7 Index

RGB CIRCUIT BOARD ASM. (CONT.)

	R428	ES14X70	100 ohm, 5%, 1/8W, Carbon
	R430	Common	1 meg ohm, 5%, 1/4W, Carbon
	R434	Common	200 ohm, 5%, 1/8W, Carbon
	R436	Common	200 ohm, 5%, 1/8W, Carbon
	R438	Common	200 ohm, 5%, 1/8W, Carbon
	R454	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
	R456	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
	R458	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
	R464	ES14X64	2K ohm, 5%, 1/8W, Carbon
	R466	ES14X64	2K ohm, 5%, 1/8W, Carbon
	R468	ES14X64	2K ohm, 5%, 1/8W, Carbon
*	R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
*	R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
*	R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	150 ohm, 20%
R446	EP49X469	150 ohm, 20%
R448	EP49X469	150 ohm, 20%
R474	EP49X470	5K ohm, 20%
R476	EP49X470	5K ohm, 20%
R478	EP49X470	5K ohm, 20%

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	NPN, Silicon
Q406	EP15X61	NPN, Silicon
Q408	EP15X61	NPN, Silicon

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y402	EP16X58	Zener

COIL

REF. NO	PART NO.	DESCRIPTION
L403	ES36X82	CHOKE-220uh, 10%,

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL4	EP8X91	CONNECTOR-8 Pos.
RL5	EP8X68	CONNECTOR-2 Pos.
	EP34X67	SOCKET-CRT

25" PC

HORIZ. HEAT SINK BOARD ASM

EP93X349

CAPACITORS

	REF. NO.	PART NO.	DESCRIPTION
	C1901	ES18X13	330pf, 20%, 2KV, Cer. Disc
*	C1903	EP25X158	.0175uf, 5%, 1.5KV, Polypropylene
*	C1904	EP25X159	.15uf, 10%, 200V, Polypropylene
*	C1905	EP25X91	.47uf, 10%, 400V, Polyester
	C1907	EP18X207	330pf, 20%, 500V, Cer. Disc
	C1909	EP25X151	2700pf, 10%, 100V, Mylar
	C1915	EP25X151	2700pf, 10%, 200V, Mylar

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1901	EP14X297	170 ohm, 10%, 7W, Wirewound
R1907	EP14X187	100 ohm, 5%, 1/2W, Carbon
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Y1903	EP57X5	Rectifier, Silicon
Y1905	EP57X5	Rectifier, Silicon
Y1907	EP57X5	Rectifier, Silicon

COILS

	REF. NO	PART NO.	DESCRIPTION
*	L1901	EP36X449	COIL-Width
	L1903	EP36X450	CHOKE-2.5uh, 10%
*	L1905	EP36X432	COIL-Linearity
*	T1901	EP36X448	COIL-Pincushion Asm

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL12	EP8X30	CONNECTOR-1 Pin
FB1901	EP12X2	FERRITE-Bead
FB1903	EP12X2	FERRITE-Bead

25" PC

VIR CIRCUIT BOARD ASM

EP93X390

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C10	EP25X87	.047uf, 20%, 50V, Polyester
C11	EP18X204	470pf, 10%, 50V, Cer. Disc
C12	EP25X87	.047uf, 20%, 50V, Polyester
C13	EP18X198	2200pf, 30%, 25V, Cer. Disc
C14	EP31X35	10uf, 10%, 16V, Elect.
C15	EP25X87	.047uf, 20%, 50V, Polyester
C16	EP25X87	.047uf, 20%, 50V, Polyester
C17	EP25X87	.047uf, 20%, 50V, Polyester
C18	EP18X204	470pf, 10%, 50V, Cer. Disc
C19	EP18X194	100pf, 10%, 50V, SHIK, Cer. Disc
C21	EP31X45	47uf, 10%, 25V, Elect.
C22	EP18X197	1000pf, 20%, 50V, Cer. Disc
C23	EP25X87	.047uf, 20%, 50V, Polyester
C24	EP31X141	220uf, 10%, 16V, Elect.
C25	EP18X169	1000pf, 30%, 25V, Cer. Disc
C28	EP31X45	47uf, 10%, 16V, Elect.
C27	EP25X87	.047uf, 20%, 50V, Polyester
C29	EP25X87	.047uf, 20%, 50V, Polyester
C30	EP18X194	100pf, 10%, 50V, SHIK, Cer. Disc
C31	EP25X87	.047uf, 20%, 50V, Polyester
C32	EP25X87	.047uf, 20%, 50V, Polyester
C33	EP31X55	100uf, 10%, 10V, Elect.
C34	EP31X45	47uf, 10%, 16V, Elect.
C35	EP25X87	.047uf, 20%, 50V, Polyester
C36	EP18X197	1000pf, 20%, 50V, Cer. Disc
C37	EP25X87	.047uf, 20%, 50V, Polyester
C38	EP18X194	100pf, 10%, 50V, SHIK, Cer. Disc
C39	EP18X169	1000pf, 30%, 25V, Cer. Disc
C40	EP18X204	470pf, 10%, 50V, Cer. Disc
C51	EP18X214	.022uf, 20%, 500V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R11	ES14X71	1K ohm, 5%, 1/8W, Carbon
R12	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R13	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R14	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R16	ES14X71	1K ohm, 5%, 1/8W, Carbon
R17	ES14X71	1K ohm, 5%, 1/8W, Carbon
R18	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R19	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R20	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R21	EP14X125	47K ohm, 5%, 1/8W, Carbon
R22	EP14X125	47K ohm, 5%, 1/8W, Carbon
R23	ES14X71	1K ohm, 5%, 1/8W, Carbon
R24	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R25	ES14X71	1K ohm, 5%, 1/8W, Carbon
R26	EP14X125	47K ohm, 5%, 1/8W, Carbon
R27	Common	220 ohm, 5%, 1/4W, Carbon
R28	EP14X125	47K ohm, 5%, 1/8W, Carbon
R29	EP14X103	10K ohm, 5%, 1/8W, Carbon
R30	EP14X288	18K ohm, 5%, 1/8W, Carbon
R31	EP14X103	10K ohm, 5%, 1/8W, Carbon
R32	EP14X140	330K ohm, 5%, 1/8W, Carbon
R33	Common	750K ohm, 5%, 1/8W, Carbon
R34	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R35	Common	3.6K ohm, 5%, 1/4W, Carbon
R36	Common	9.1K ohm, 5%, 1/8W, Carbon
R37	ES14X71	1K ohm, 5%, 1/8W, Carbon
R40	EP14X125	47K ohm, 5%, 1/8W, Carbon
R41	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R42	EP14X289	430 ohm, 5%, 1/4W, Carbon
R43	EP14X187	100 ohm, 5%, 1/8W, Carbon
R44	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R45	EP14X285	15K ohm, 5%, 1/8W, Carbon
R46	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R47	EP14X103	10K ohm, 5%, 1/8W, Carbon
R48	ES14X58	470 ohm, 5%, 1/8W, Carbon
R49	ES14X71	1K ohm, 5%, 1/8W, Carbon
R50	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R51	EP14X288	30K ohm, 5%, 1/8W, Carbon
R52	EP14X136	33K ohm, 5%, 1/8W, Carbon
R53	Common	10 ohm, 5%, 1/8W, Carbon
R55	ES14X71	1K ohm, 5%, 1/8W, Carbon
R56	ES14X71	1K ohm, 5%, 1/8W, Carbon
R57	EP14X179	2K ohm, 5%, 1/4W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
VIC10	EP84X60	Mono

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q10	EP15X88	NPN, Silicon
Q11	EP15X88	NPN, Silicon
Q12	EP15X88	NPN, Silicon
Q13	EP15X88	NPN, Silicon
Q14	EP15X88	NPN, Silicon
Q15	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y10	EU16X11	Silicon
Y11	EU16X11	Silicon
Y12	EU16X11	Silicon
Y13	EU16X11	Silicon
Y14	EU16X11	Silicon
Y15	EP16X19	Zener

COIL

REF. NO	PART NO.	DESCRIPTION
L50	EP36X33	CHOKE~56uh, 5%

LDR BOARD ASM

EP41X120

CAPACITOR

REF. NO.	PART NO.	DESCRIPTION
C1918	EP31X88	47uf, 10%, 16V, Elect.

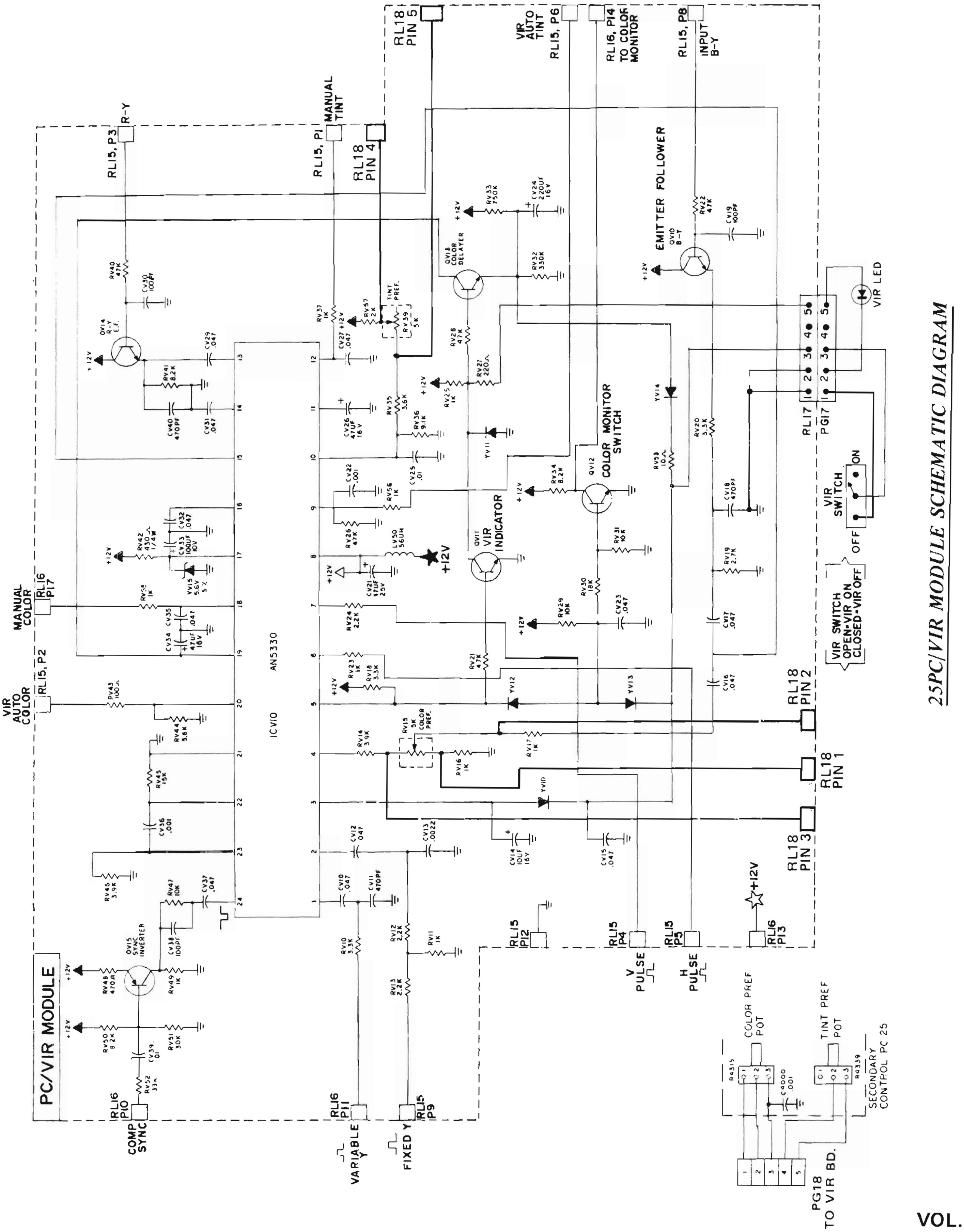
RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1902	Common	4.3K ohm, 5%, 1/8W, Carbon
R1904	Common	3K ohm, 5%, 1/8W, Carbon
R1906	EP14X284	12K ohm, 5%, 1/8W, Carbon
R1910	ES14X59	560 ohm, 5%, 1/8W, Carbon
R1911	EP14X324	Light Dep Resistor

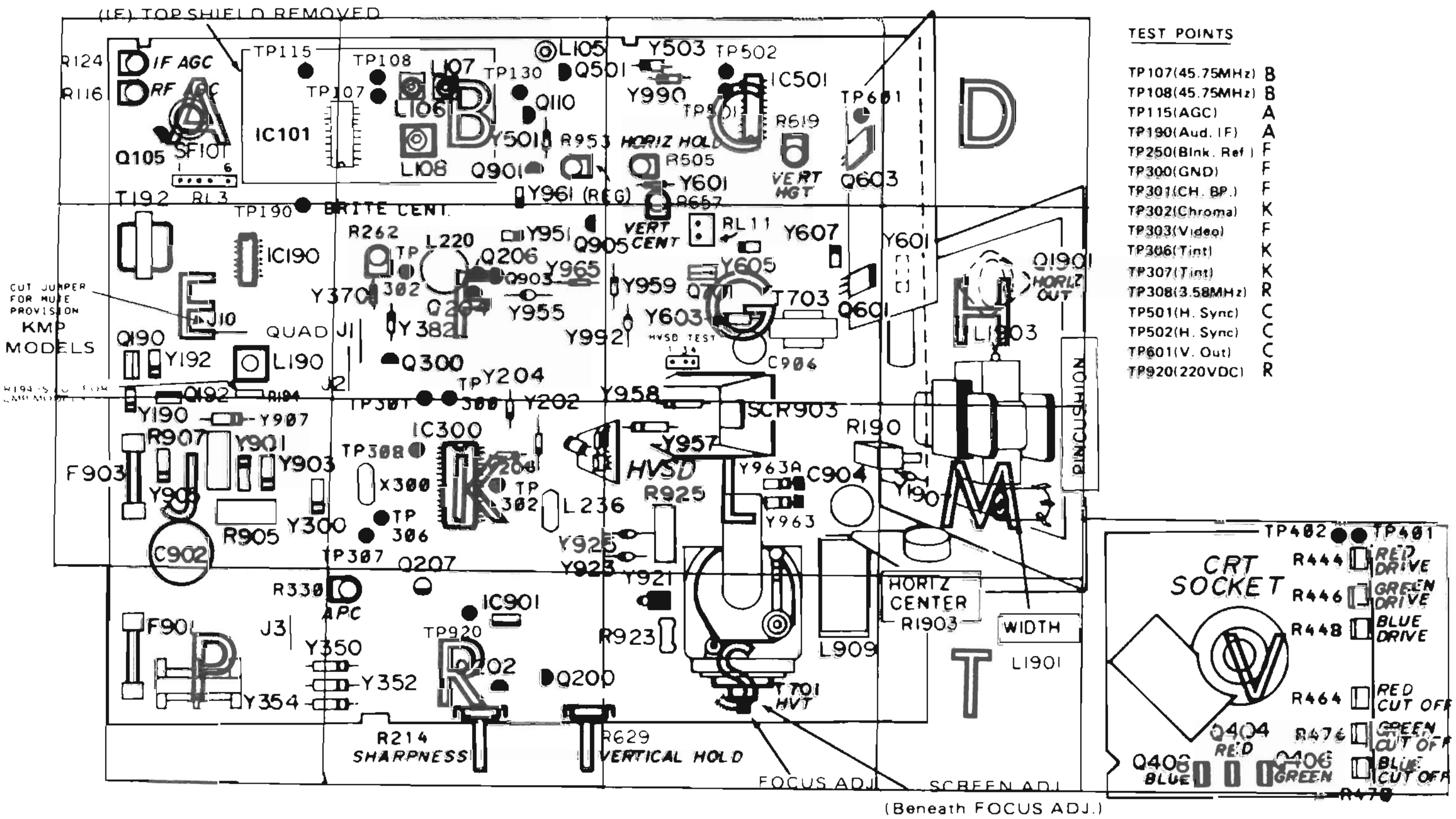
MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
PG28	EP8X42	CONNECTOR--4 Pins

25PC/VIR MODULE (EP93X390) SCHEMATIC DIAGRAM



PC CHASSIS LAYOUT



25PC—B/C/D PARTS LIST (CONTINUED)

Q601	EP15X105	Vertical Output, NPN, Silicon
Q603	EP15X105	Vertical Driver, NPN, Silicon
Q701	EP15X19	Horizontal Driver, NPN, Silicon
Q901	EP15X88	Error Amp, NPN, Silicon
Q903	EP15X91	Regulator Control, NPN, Silicon
Q905	EP15X57	Regulator Trigger, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y190	EU16X11	Silicon
Y192	EU16X11	Silicon (PC–B/C)
Y194	EP16X58	17 Volt, Zener
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X147	Schockley
Y350	EP16X58	17 Volt, Zener
Y352	EP16X58	17 Volt, Zener
Y354	EP16X58	17 Volt, Zener
Y501	ES16X27	Silicon (PC–B Only)
Y503	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP16X154	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
Y939	EP57X4	Rectifier, Silicon (PC–D Only)
Y951	EP16X19	5.6 Volt, Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
* Y957	EP16X148	36 Volt, Zener
* Y958	EP16X148	36 Volt, Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963A	EP16X149	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Silicon
Y992	EP57X5	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
CF100	EP41X126	FILTER-Ceramic, 4.5mhz, Audio
CF212	EP41X133	TRAP-Ceramic, 3.58mhz
L101	EP36X442	CHOKE-.82uh, 10%
L102	EP36X442	CHOKE-.82uh, 10%
L104	EP36X4	CHOKE-9.2uh
L105	EP36X312	COIL-4.5mc, Trap
L106	EP36X433	COIL-45.75mhz, Molded
L107	EP36X433	COIL-45.75mhz, Molded
L108	EP36X468	COIL-IF & 41.25mhz, Trap
L180	EP36X144	CHOKE-27uh, 5%
L190	EP36X435	COIL-Quad.
L196	ES36X82	CHOKE-220uh, 20%
L200	EP36X314	CHOKE-30uh, 10%
L204	EP36X17	CHOKE-150uh, 10%
L220	EP36X439	COIL-Delay Line
L236	EP36X136	CHOKE-15uh, 10%
L300	EP36X23	CHOKE-12uh, 5%
L320	EP36X33	CHOKE-56uh, 5%
L321	EP36X33	CHOKE-56uh, 5%
L322	EP36X33	CHOKE-56uh, 5%
* L703	EP36X437	CHOKE-Filament, H.V. Tuning
* L901	EP36X440	COIL-Line Choke Filter
L903	EP36X436	COIL-Filament Choke (PC–D Only)
* L909	EP36X441	CHOKE-3mh, Regulator
L921	EP36X477	CHOKE-82uh, 5% (PC–D Only)
L921	EP36X136	CHOKE-15uh, 5% (PC–B/C)
L929	EP36X437	CHOKE-Filament, H.V. Tuning
SF101	EP41X123	WAVE FILTER
T192	EP64X58	TRANSFORMER-Audio Output
* T701	EP77X58	TRANSFORMER-H.V.
* T703	EP64X57	TRANSFORMER-Buffer
X300	EP41X10	CRYSTAL-Quartz

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP60X13	AIR GAP-For H. V. T.
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903 (4 Used)
*	EP66X19	CORD-AC Power Polarized, Wired-In-Type
FB921	EP12X8	FERRITE BEAD
FB963A	EP12X8	FERRITE BEAD
* F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
* F903	ET10X42	FUSE-1.5amp, 250V, Snap-In, Fast Acting
	EP3X38	WASHER-Shoulder, SCR903, Q601 Q603

HORIZ. HEAT SINK BOARD ASM

EP93X454

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C1901	ES18X13	330pf, 20%, 2KV, Cer. Disc
* C1903	EP25X158	.0175uf, 5%, 1.5KV, Polypropylene
* C1904	EP25X159	.15uf, 10%, 200V, Polypropylene
* C1905	EP25X91	.47uf, 10%, 400V, Polyester
C1907	EP18X207	330pf, 20%, 500V, Cer. Disc
C1909	EP25X151	2700pf, 10%, 100V, Mylar
C1915	EP25X151	2700pf, 10%, 200V, Mylar

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
* R1901	EP14X297	170 ohm, 10%, 7W, Wirewound
R1907	EP14X187	100 ohm, 5%, 1/2W, Carbon
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz Centering

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	Horiz Output Damper, NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y1903	EP57X5	Rectifier, Silicon
Y1905	EP57X5	Rectifier, Silicon
Y1907	EP57X5	Rectifier, Silicon

25PC–B/C/D PARTS LIST (CONTINUED)

COILS

REF. NO.	PART NO.	DESCRIPTION
* L1901	EP36X449	COIL-Width
L1903	EP36X450	CHOKE-2.5uh, 10%
* L1905	EP36X432	COIL-Linearity
* T1901	EP36X448	COIL-Pincushion Asm

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL12	EP8X30	CONNECTOR-1 Pin
FB1901	EP12X2	FERRITE-Bead
FB1903	EP12X2	FERRITE-Bead
	EP3X52	SPACER-Q1901

RGB CIRCUIT BOARD ASM

EP93X392

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EU22X216	.01uf, 20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C406	EP18X270	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X205	560pf, 20%, 50V, HiK, Cer. Disc
C490	EP18X267	4700pf, 20%, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, 1/8W, Carbon
R404	EP14X289	430 ohm, 5%, 1/8W, Carbon
R405	ES14X59	560 ohm, 5%, 1/8W, Carbon
R411	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R413	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, 1/8W, Carbon
R415	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, 1/8W, Carbon
R418	EP14X128	330 ohm, 5%, 1/8W, Carbon
R419	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R424	EP14X187	100 ohm, 5%, 1/8W, Carbon
R426	EP14X187	100 ohm, 5%, 1/8W, Carbon
R428	ES14X70	100 ohm, 5%, 1/8W, Carbon
R430	EP14X131	1 meg ohm, 10%, 1/4W, Carbon
R434	EP14X329	200 ohm, 5%, 1/8W, Carbon
R436	EP14X329	200 ohm, 5%, 1/8W, Carbon
R438	EP14X329	200 ohm, 5%, 1/8W, Carbon
R454	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R456	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R458	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R464	Common	3K ohm, 5%, 1/8W, Carbon
R466	Common	3K ohm, 5%, 1/8W, Carbon
R468	Common	3K ohm, 5%, 1/8W, Carbon
* R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
* R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
* R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	Red Drive, 150 ohm, 20%
R446	EP49X469	Green Drive, 150 ohm, 20%
R448	EP49X469	Blue Drive, 150 ohm, 20%
R474	EP49X470	Red Cut Off, 5K ohm, 20%
R476	EP49X470	Green Cut Off, 5K ohm, 20%
R478	EP49X470	Blue Cut Off, 5K ohm, 20%

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	Red Amp, NPN, Silicon
Q406	EP15X61	Green Amp, NPN, Silicon
Q408	EP15X61	Blue Amp, NPN, Silicon

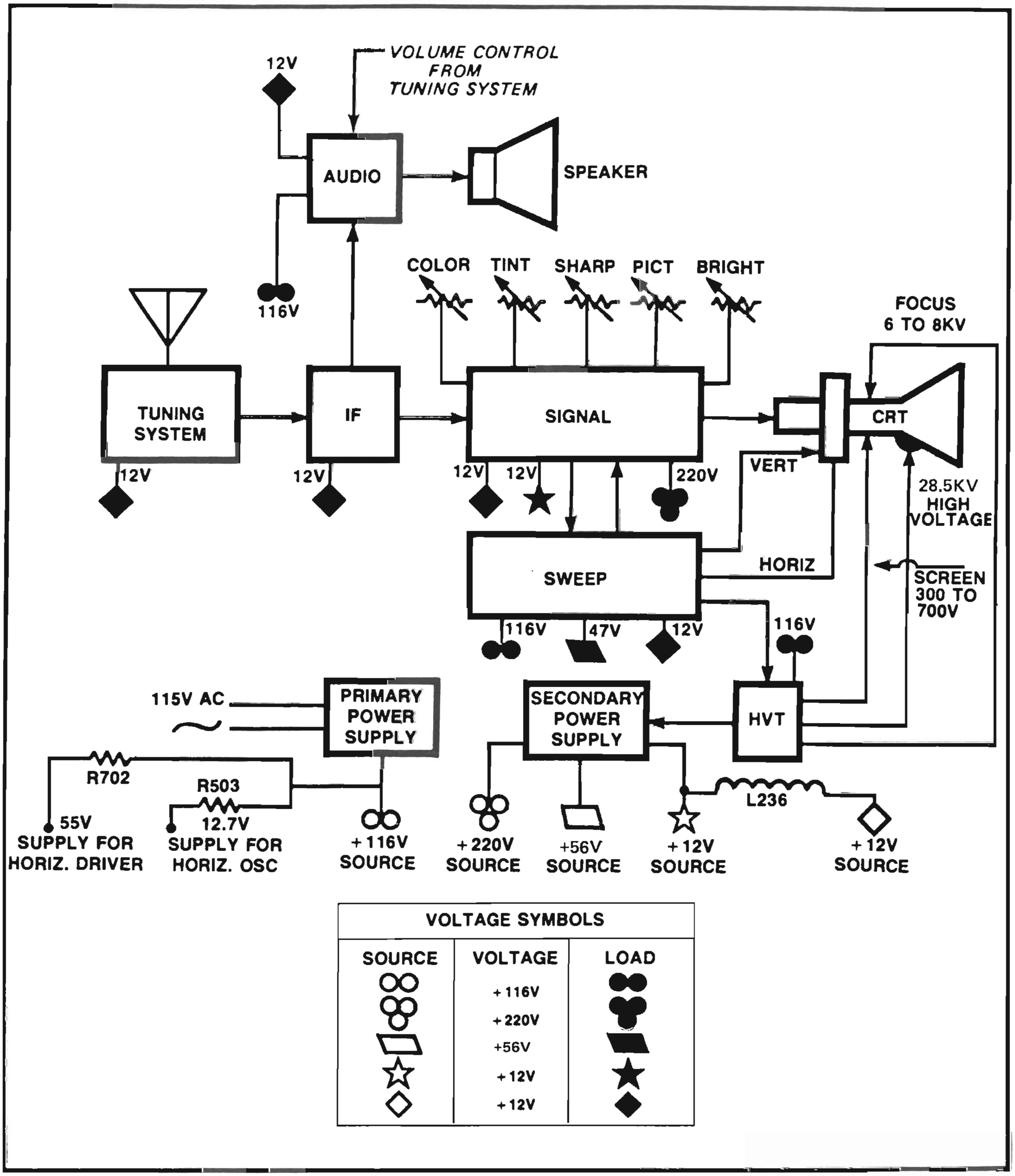
COIL

REF. NO.	PART NO.	DESCRIPTION
L403	ES36X82	CHOKE-220uh, 10%,

MISCELLANEOUS

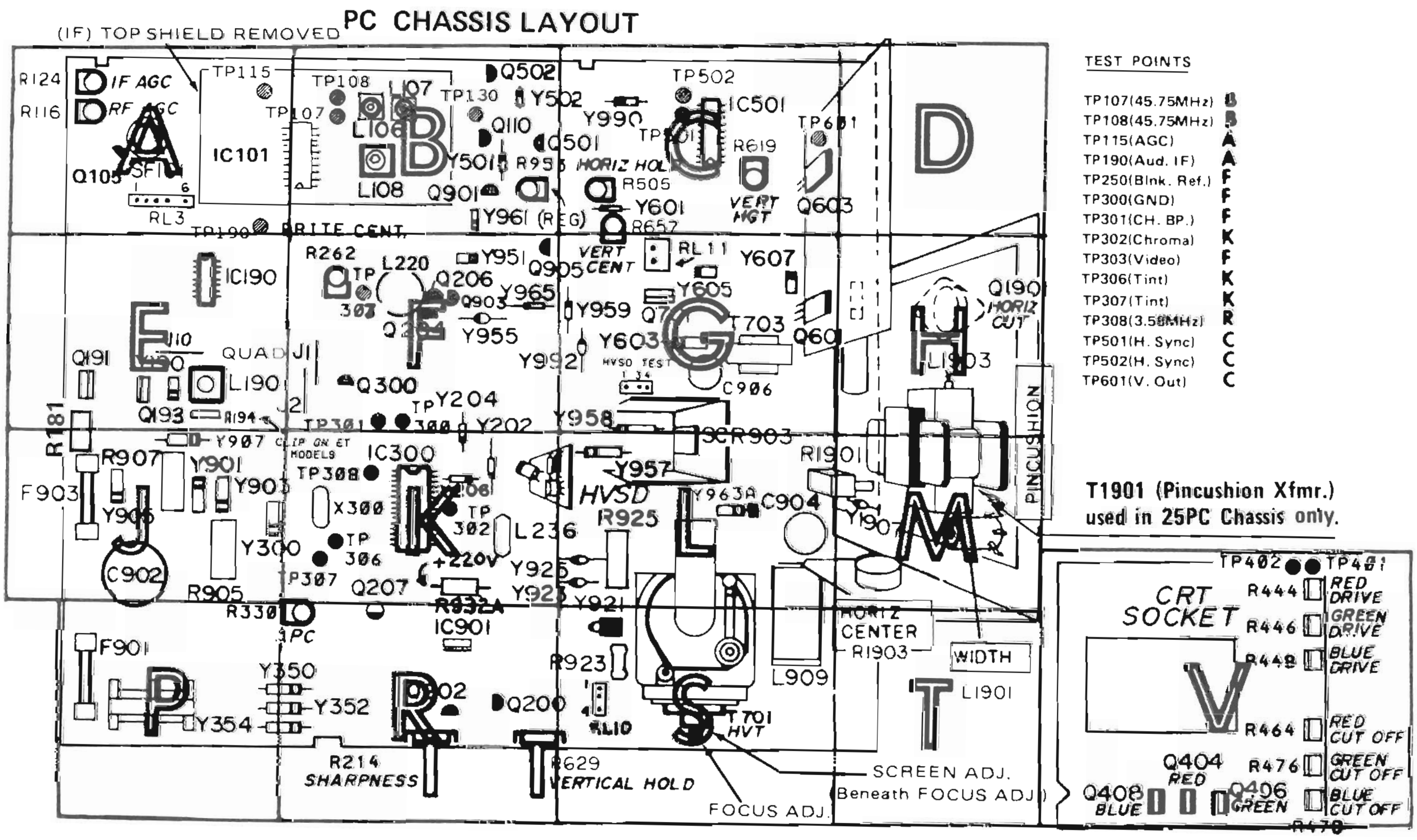
REF. NO.	PART NO.	DESCRIPTION
RL4	EP8X91	CONNECTOR-8 Pos.
RL5	EP8X68	CONNECTOR-2 Pos.
	EP34X69	SOCKET-CRT

PC CHASSIS BLOCK DIAGRAM



PC CHASSIS LAYOUT

BOXED RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR ADJUSTMENTS, COMPONENTS, AND TEST POINTS LOCATION (see PC Chassis Layout below).



TEST POINTS

TP107(45.75MHz)	B
TP108(45.75MHz)	B
TP115(AGC)	A
TP190(Aud. IF)	A
TP250(Blnk. Ref.)	F
TP300(GND)	F
TP301(CH. BP.)	F
TP302(Chroma)	K
TP303(Video)	F
TP306(Tint)	K
TP307(Tint)	K
TP308(3.58MHz)	R
TP501(H. Sync)	C
TP502(H. Sync)	C
TP601(V. Out)	C

25" PC-E/F/H Parts List (Cont.)

R187	ES14X71	1K ohm, 5%, 1/4W, Carbon	R509	EP14X119	68K ohm, 5%, l/4W, Carbon
R188	EP14X434	39 ohm, 5%, l/4W, Carbon	R511	EP14X103	10K ohm, 5%, l/8W, Carbon
R189	ES14X80	2.2 ohm, 5%, 1/2W, Carbon	R513	EP14X103	10K ohm, 5%, l/4W, Carbon
R190	ES14X80	2.2 ohm, 5%, l/2W, Carbon	R516	EP14X453	150K ohm, 5%, l/8W, Carbon
R191	EP14X447	39K ohm, 5%, l/4W, Carbon	R517	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
★R192	EP14X380	27K ohm, 5%, l/4W, Carbon	R518	EP14X425	240K ohm, 5%, l/4W, Carbon
R193	EP14X421	4.3K ohm, 5%, l/4W, Carbon	R519	EP14X422	62K ohm, 5%, l/8W, Carbon
R194	EP14X103	10K ohm, 5%, l/4W, Carbon	R521	ES14X56	33 ohm, 5%, l/4W, Carbon
R195	EP14X400	2.7K ohm, 5%, l/4W, Carbon	R523	ES14X59	560 ohm, 5%, l/4W, Carbon
R196	EP14X105	100K ohm, 5%, 1/4W, Carbon	R525	EP14X131	47K ohm, 5%, 1/4W, Carbon
R197	EP14X400	2.7K ohm, 5%, 1/4W, Carbon	R527	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R198	EP14X424	8.2K ohm, 5%, l/4W, Carbon	R528	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R199	EP14X409	10 ohm, 5%, 1/4W, Carbon	R529	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R200	ES14X69	56 ohm, 5%, l/4W, Carbon	R531	EP14X409	10 ohm, 5%, l/4W, Carbon
R202	EP14X285	20K ohm, 5%, l/8W, Carbon	R532	ES14X61	820 ohm, 5%, 1/4W, Carbon
R204	EP14X444	1.2K ohm, 5%, l/8W, Carbon	R535	EP14X386	51K ohm, 5%, l/4W, Carbon
R206	EP14X243	2.2K ohm, 5%, l/8W, Carbon	R537	EP14X131	47K ohm 5%, 1/4W, Carbon
R208	EP14X303	22K ohm, 5%, l/8W, Carbon	R601	EP14X398	15K ohm, 5%, l/4W, Carbon
R209	EP14X428	82 ohm, 5%, l/4W, Carbon	R603	ES14X51	47 ohm, 5%, l/4W, Carbon
R210	EP14X220	180 ohm, 5%, l/4W, Carbon	R605	EP14X103	10K ohm, 5%, l/4W, Carbon
R211	EP14X421	4.3K ohm, 5%, l/8W, Carbon	R609	EP14X413	12K ohm, 5%, l/4W, Carbon
R212	EP14X284	12K ohm, 5%, l/8W, Carbon	R611	EP14X128	330 ohm, 5%, l/4W, Carbon
R213	EP14X140	330K ohm, 5%, l/8W, Carbon	R613	EP14X243	2.2K ohm 5%, l/4W, Carbon
R216	EP14X420	270 ohm, 5%, l/8W, Carbon	R615	EP14X285	20K ohm, 5%, l/4W, Carbon
R217	ES14X61	820 ohm, 5%, 1/8W, Carbon	R617	EP14X378	120 ohm, 5%, l/4W, Carbon
R218	EP14X289	430 ohm, 5%, l/8W, Carbon	R621	EP14X388	6.8 ohm, 5%, 1W, Metal Oxide
R220	EP14X283	680 ohm, 5%, l/8W, Carbon	R623	EP14X424	8.2K ohm, 5%, l/4W, Carbon
R221	EP14X293	680K ohm, 5%, l/4W, Carbon	R625	EP14X220	180 ohm, 5%, l/4W, Carbon
R222	EP14X415	82K ohm, 5%, l/4W, Carbon	R627	EP14X243	2.2K ohm, 5%, l/4W, Carbon
R224	EP14X103	10K ohm, 5%, l/8W, Carbon	R631	EP14X456	6.8K ohm, 5%, l/4W, Carbon
R226	ES14X59	560 ohm, 5%, l/4W, Carbon	R633	EP14X424	8.2K ohm, 5%, l/4W, Carbon
R228	ES14X65	4.7K ohm, 5%, l/4W, Carbon	R635	EP14X220	180 ohm, 5%, l/8W, Carbon
R230	ES14X71	1K ohm, 5%, l/4W, Carbon	R637	ES14X70	100 ohm, 5%, l/4W, Carbon
R234	EP14X414	18K ohm, 5%, l/4W, Carbon	R639	ES14X71	1K ohm, 5%, l/4W, Carbon
R240	ES14X71	1K ohm, 5%, l/4W, Carbon	R641	EP14X188	15 ohm, 5%, l/2W, Carbon
R250	ES14X62	1.5K ohm, 5%, l/4W, Carbon	★R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
R252	EP14X303	22K ohm, 5%, l/8W, Carbon	★R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
R254	EP14X105	100K ohm, 5%, l/8W, Carbon	★R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R256	EP14X411	2.4K ohm, 5%, l/4W, Carbon	R649	EP14X183	3.3K ohm, 5%, l/4W, Carbon
R258	EP14X398	15K ohm, 5%, l/4W, Carbon	R651	EP14X48	10 ohm, 5%, l/2W, Carbon
R270	EP14X284	10 ohm, 5%, l/8W, Carbon	★R653	EP14X346	180 ohm, 5%, 2W, Metal Oxide
R300	EP14X426	36K ohm, 5%, l/4W, Carbon	R655	EP14X130	2.7K ohm, 5%, l/2W, Carbon
R302	EP14X370	9.1K ohm, 5%, l/4W, Carbon	★R702	EP14X328	1.2K ohm, 5%, 3W, Flame Proof
R310	EP14X133	470K ohm, 5%, l/8W, Carbon	★R703	EP14X348	.47 ohm, 5%, 2W, Metal Oxide
R312	EP14X400	2.7K ohm, 5%, l/4W, Carbon	★R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
R316	EP14X128	330 ohm, 5%, l/4W, Carbon	★R900	EP14X106	1 meg ohm, 5%, l/2W, Carbon
R318	EP14X447	39K ohm, 5%, l/4W, Carbon	★R901	EP14X472	Degaussing
R320	EP14X444	1.2K ohm, 5%, l/8W, Carbon	R903	EP14X105	100K ohm, 5%, l/2W, Carbon
R322	ES14X58	470 ohm, 5%, l/4W, Carbon	★R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
R326	ES14X71	1K ohm, 5%, l/4W, Carbon	★R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
R328	ES14X71	1K ohm, 5%, l/4W, Carbon	★R921	ES14X80	2.2 ohm, 5%, l/2W, Flame Proof
R336	EP14X381	3K ohm, 5%, l/4W, Carbon	R923	ES14X79	1 ohm, 5%, l/2W, Flame Proof
R338	EP14X105	100K ohm, 5%, 1/4W, Carbon	★R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R350	EP14X436	3.6K ohm, 5%, l/4W, Carbon	★R927	ES14X80	2.2 ohm, 5%, l/2W, Flame Proof
R352	EP14X436	3.6K ohm, 5%, l/4W, Carbon	R929	EP14X266	.39 ohm, 5%, 1W, Metal Oxide
R354	EP14X128	330 ohm, 5%, l/4W, Carbon	R932	EP14X378	120 ohm, 5%, l/4W, Carbon
R355	EP14X128	330 ohm, 5%, l/4W, Carbon	R932A	EP14X378	120 ohm, 5%, l/4W, Carbon
R356	EP14X436	3.6K ohm, 5%, l/4W, Carbon	R933	EP14X403	220K ohm, 5%, l/2W, Carbon
R358	EP14X128	330 ohm, 5%, l/4W, Carbon	★R935	ES14X62	1.5K ohm, 5%, l/2W, Carbon
R370	EP14X284	lK ohm, 5%, l/8W, Carbon	★R936	EU13X4	1K ohm, 5%, l/2W, Carbon
R372	EP14X402	300 ohm, 5%, l/4W, Carbon	★R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R380	ES14X65	4.7K ohm, 5%, l/4W, Carbon	R939	EP14X187	100 ohm, 5%, l/2W, Carbon
R381	EP14X180	5.6K ohm, 5%, l/8W, Carbon	★R941	EP14X54	18 ohm, 5%, 2W, Metal Oxide
R389	EP14X382	820K ohm, 10%, 1/4W, Carbon	R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
R391	EP14X418	5.1K ohm, 5%, l/4W, Carbon	R952	EP14X457	1.8 meg, ohm, 5%, l/4W, Carbon
R503	EP14X323	6.8K ohm, 5%, 3W, Flame Proof	R954	EP14X105	100K ohm, 5%, l/4W, Carbon
R506	EP14X418	5.1K ohm, 5%, l/4W, Carbon	R955	EP14X252	3.9K ohm, 2%, l/8W, Carbon
R507	EP14X376	11K ohm, 5%, l/4W, Carbon	R957	EP14X284	1K ohm, 5%, l/8W, Carbon
R508	EP14X188	15 ohm, 5%, l/4W, Carbon	R959	EP14X284	lK ohm, 5%, l/8W, Carbon

(CONTINUED)

25 PC-E/F/H Parts List (Cont.)

R961	ES14X71	IK ohm, 5%, I/4W, Carbon
R963	EP14X318	220 ohm, 5%, I/4W, Carbon
R965	EP14X394	6.2K ohm, 5%, I/8W, Carbon
R969	ES14X56	33 ohm, 5%, I/2W, Carbon
R971	EP14X128	330 ohm, 5%, I/2W, Carbon
R973	ES14X58	470 ohm, 5%, 1/2W, Carbon
★R975	EP14X275	1K ohm, 10%, 3W, Wirewound
R981	EP14X258	3 ohm, 10%, 7W, Wirewound
★R983	EP14X368	1.6K ohm, 5%, 1W, Metal Oxide
R985	EP14X396	240 ohm, 5%, I/8W, Carbon
R990	EP14X443	110 ohm, 5%, 1/2W, Metal Oxide
R996	EP14X243	2.2K ohm, 5%, I/8W, Carbon
R998	EP14X398	15K ohm, 5%, I/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R116	EP49X463	RF/AFC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X464	Sharpness, IK ohm, 20%
R262	EP49X463	Brightness, 5K ohm, 20%
R330	EP49X465	APC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg., IK ohm, 20%

INTERGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
	EP62X167	HVSD-Thick Film
IC101	EP84X213	VIF/Det/AFC
IC190	EP84X216	IF/Sound
IC300	EP84X221	Chroma/Video
IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V, 3 Ter. Regulator

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
SCR903	EP15X217	SCR Regulator, PNP
Q105	EP15X104	Pre Amp, HF, BiPolar
Q110	EP15X87	Video Emitter Follower NPN, Silicon
Q188	EP15X88	NPN, Silicon
Q191	EP15X228	NPN, Silicon
Q193	EP15X222	PNP, Silicon
Q200	EP15X88	Regulator, NPN, Silicon
Q202	EP15X48	Beam Limiter, PNP, Silicon
Q204	EP15X88	Video Amp, NPN, Silicon
Q207	EP15X225	Video Amp, PNP, Silicon
Q300	EP15X226	Burst Gate, NPN, Silicon
Q501	EP15X86	NPN, Silicon
Q502	EP15X87	NPN, Silicon
Q601	EP15X105	Vertical Output, NPN, Silicon
Q603	EP15X105	Vertical Driver, NPN, Silicon
Q701	EP15X123	Horizontal Driver, NPN, Silicon
Q901	EP15X88	Error Amp, NPN, Silicon
Q903	EP15X91	Regulator Control, NPN, Silicon
Q905	EP15X225	Regulator Trigger, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y190	ES16X27	Silicon
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X3	GER.
Y350	EP16X58	17 Volt, Zener
Y352	EP16X58	17 Volt, Zener
Y354	EP16X58	17 Volt, Zener
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP16X154	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
Y939	EP57X4	Rectifier, Silicon
Y951	EP16X19	5.6 Volt, Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
★Y957	EP16X148	36 Volt, Zener
★Y958	EP16X148	36 Volt, Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963	EP16X149	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Rectifier, Silicon
Y992	EP57X5	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
CF100	EP41X126	FILTER-Ceramic, 4.5mhz, Audio
CF105	EP41X143	CERAMIC TRAP-4.5mhz
CF212	EP41X153	TRAP-Ceramic, 3.58mhz
L102	EP36X442	CHOKE-.82μh, 10%
L106	EP36X433	COIL-45.75mhz, Molded
L107	EP36X433	COIL-45.75mhz, Molded
L108	EP36X468	COIL-IF & 41.25mhz, Trap
L150	EP36X136	CHOKE-15μh, 5%
L180	EP36X144	CHOKE-27μh, 5%
L190	EP36X435	COIL-Quad.
L200	EP36X314	CHOKE-30μh, 10%
L204	EP36X17	CHOKE-150μh, 10%
L212	EP36X136	CHOKE-15μh, 5%
L220	EP36X459	COIL-Delay Line
L236	EP36X136	CHOKE-15μh, 10%
L300	EP36X23	CHOKE-12μh, 5%
L320	EP36X33	CHOKE-56μh, 5%
L321	EP36X33	CHOKE-56μh, 5%
L322	EP36X33	CHOKE-56μh, 5%
★L703	EP36X437	CHOKE-Filament, H.V. Tuning
★L901	EP36X440	COIL-Line Choke Filter
L903	EP36X436	COIL-Filament Choke
★L909	EP36X441	CHOKE-3mh, Regulator
L921	EP36X477	CHOKE-82μh, 5%
L929	EP36X437	CHOKE-Filament, H.V. Tuning
SF101	EP41X152	WAVE FILTER
★T701	EP77X58	TRANSFORMER-H.V.
★T703	EP64X57	TRANSFORMER-Buffer
X300	EP41X10	CRYSTAL-Quartz

(CONTINUED)

25 PC-E/F/H Parts List (Cont.)

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP60X13	AIR GAP-For H. V. T.
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903 (4 Used)
	★EP66X19	CORD-AC Power Polarized, Wired-In-Type
FB921	EP12X8	FERRITE BEAD
FB963	EP12X8	FERRITE BEAD
★F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
★F903	ET10X38	FUSE-I.5amp, 250V, Snap-In, Slow Acting
	EP3X38	WASHER-Shoulder, SCR903, Q601 Q603

RGB CIRCUIT BOARD

EP93X550

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EP18X26	.01uf, +80-20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, Hik, Cer. Disc
C406	EP18X270	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X205	560pf, 20%, 50V, HiK, Cer. Disc
C410	EP18X74	330pf, 20%, 50V, HiK, Cer. Disc
C490	EP18X267	4700pf, +80-20%, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, l/4W, Carbon
R404	EP14X289	430 ohm, 5%, l/4W, Carbon
R405	ES14X59	560 oh, 5%, 1/4W, Carbon
★R411	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
★R413	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, l/4W, Carbon
★R415	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, l/4W, Carbon
R418	EP14X128	330 ohm, 5%, l/4W, Carbon
★R419	EP14X38	3.3K ohm, 5%, l/4W, Carbon
★R424	ES14X70	100 ohm, 5%, l/4W, Carbon
★R426	ES14X70	100 ohm, 5%, l/4W, Carbon
★R428	ES14X70	100 ohm, 5%, l/8W, Carbon
R430	EP14X131	1meg ohm, 10%, 1/4W, Carbon
★R434	EP14X329	200 ohm, 5%, l/4W, Carbon
★R436	EP14X329	200 ohm, 5%, l/4W, Carbon
★R438	EP14X318	220 ohm, 5%, l/8W, Carbon
R454	ES14X65	4.7K ohm, 5%, l/4W, Carbon
R456	ES14X65	4.7K ohm, 5%, l/4W, Carbon
R458	ES14X65	4.7K ohm, 5%, l/4W, Carbon
★R464	EP14X381	3K ohm, 5%, l/4W, Carbon
★R466	EP14X381	3K ohm, 5%, l/8W, Carbon
★R468	EP14X381	3K ohm, 5%, l/4W, Carbon
★R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	Red Drive, 150 ohm, 20%
R446	EP49X469	Green Drive, 150 ohm, 20%
R448	EP49X469	Blue Drive, 150 ohm, 20%
R474	EP49X470	Red Cut Off, 5K ohm, 20%
R476	EP49X470	Green Cut Off, 5K ohm, 20%
R478	EP49X470	Blue Cut Off, 5K ohm, 20%

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	RED DRIVE-NPN, Silicon
Q406	EP15X61	GREEN DRIVE-NPN, Silicon
Q408	EP15X61	BLUE DRIVE-NPN, Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L403	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL4	EP8X91	CONNECTOR-8 Pos.
★	EP34X69	SOCKET-CRT
	EP2X1	TERMINAL-Speaker Lead Type

HORIZ. HEAT SINK BOARD ASM

EP93X537

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C1901	ES18X13	330pf, 20%, 2KV, Cer. Disc
★C1903	EP25X158	.0175μf, 5%, I.5KV, Polypropylene
★C1904	EP25X159	.15μf, 10%, 200V, Polypropylene
★C1905	EP25X91	.47μf, 10%, 400V, Polyester
C1907	EP18X217	330pf, 20%, 500V, Cer. Disc
C1909	EP25X151	2700pf, 10%, 100V, Mylar
C1915	EP25X151	2700pf, 10%, 200V, Mylar

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
★R1901	EP14X297	170 ohm, 10%, 7W, Wirewound
R1907	EP14X187	100 ohm, 5%, 1/2W, Carbon
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz Centering, 500 ohm, 10%

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	Horiz Output Damper, NPN, Silicon

(CONTINUED)

25 PC-E/F/H Parts List (Cont.)

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y1903	EP57X5	Rectifier, Silicon
Y1905	EP57X5	Rectifier, Silicon
Y1907	EP57X5	Rectifier, Silicon

COILS

REF. NO.	PART NO.	DESCRIPTION
★L1901	EP36X449	COIL-Width
L1903	EP36X450	CHOKE-2.5μh, 10%
★L1905	EP36X432	COIL-Linearity
★T1901	EP36X448	COIL-Pincushion Asm

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EU3X532	CLIP-Ground
RL12	EP8X30	CONNECTOR-1 Pin
FB1901	EP12X2	FERRITE-Bead
FB1903	EP12X2	FERRITE-Bead
	EP3X52	SPACER-Q1901

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

25 PC-J Parts List (Cont.)

R605	EP14X103	10K ohm, 5%, l/4W, Carbon
R609	EP14X413	12K ohm, 5%, l/4W, Carbon
R611	EP14X128	330 ohm, 5%, l/4W, Carbon
R613	EP14X243	2.2K ohm 5%, l/4W, Carbon
R615	EP14X285	20K ohm, 5%, l/8W, Carbon
R617	EP14X378	120 ohm, 5%, l/4W, Carbon
R621	EP14X388	6.8 ohm, 5%, 1W, Metal Oxide
R623	EP14X424	8.2K ohm, 5%, l/4W, Carbon
R625	EP14X220	180 ohm, 5%, l/4W, Carbon
R627	EP14X243	2.2K ohm, 5%, l/4W, Carbon
R631	EP14X456	6.8K ohm, 5%, l/8W, Carbon
R633	EP14X424	8.2K ohm, 5%, l/4W, Carbon
R635	EP14X220	180 ohm, 5%, l/8W, Carbon
R637	ES14X70	100 ohm, 5%, l/4W, Carbon
R639	ES14X71	1K ohm, 5%, l/4W, Carbon
R641	EP14X188	15 ohm, 5%, l/2W, Carbon
★R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
★R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
★R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R649	EP14X183	3.3K ohm, 5%, l/4W, Carbon
R651	EP14X48	10 ohm, 5%, l/2W, Carbon
★R653	EP14X346	180 ohm, 5%, 2W, Metal Oxide
R655	EP14X130	2.7K ohm, 5%, l/2W, Carbon
★R702	EP14X328	1.2K ohm, 5%, 3W, Flame Proof
★R703	EP14X262	.47 ohm, 5%, 2W, Metal Oxide
★R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
★R900	EP14X106	1 meg ohm, 5%, l/2W, Carbon
★R901	EP14X472	THERMISTOR
R902	EP14X326	VARISTOR
R903	EP14X105	100K ohm, 5%, l/2W, Carbon
★R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
★R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
★R921	ES14X80	2.2 ohm, 5%, l/2W, Flame Proof
R923	ES14X79	1 ohm, 5%, l/2W, Flame Proof
★R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
★R927	ES14X80	2.2 ohm, 5%, l/2W, Flame Proof
R929	EP14X266	.39 ohm, 5%, 1W, Metal Oxide
R932	EP14X378	120 ohm, 5%, l/4W, Carbon
R932A	EP14X378	120 ohm, 5%, l/4W, Carbon
R933	EP14X403	220K ohm, 5%, l/2W, Carbon
★R935	ES14X62	1.5K ohm, 5%, l/2W, Carbon
★R936	EU13X4	1K ohm, 5%, l/2W, Carbon
★R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R939	EP14X187	100 ohm, 5%, l/2W, Carbon
R940	EP14X409	10 ohm, 5%, 1/4W, Carbon
★R941	EP14X54	18 ohm, 5%, 2W, Metal Oxide
R945	EP14X106	1 meg ohm, 5%, 1/4W, Carbon
R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
R952	EP14X457	1.8 meg, ohm, 5%, l/4W, Carbon
R954	EP14X105	100K ohm, 5%, l/4W, Carbon
R955	EP14X252	3.9K ohm, 2%, l/8W, Carbon
R957	EP14X284	1K ohm, 5%, l/8W, Carbon
R959	EP14X284	lK ohm, 5%, l/8W, Carbon
R961	ES14X71	lK ohm, 5%, l/4W, Carbon
R963	EP14X318	220 ohm, 5%, l/4W, Carbon
R965	EP14X394	6.2K ohm, 5%, l/8W, Carbon
R969	ES14X56	33 ohm, 5%, l/2W, Carbon
R971	EP14X128	330 ohm, 5%, l/2W, Carbon
R973	ES14X58	470 ohm, 5%, 1/2W, Carbon
★R975	EP14X275	1K ohm, 10%, 3W, Wirewound
R981	EP14X352	3 ohm, 5%, 7W, Wirewound
★R983	EP14X368	1.6K ohm, 5%, 1W, Metal Oxide
R985	EP14X396	240 ohm, 5%, l/8W, Carbon
R990	EP14X443	110 ohm, 5%, 1/2W, Metal Oxide
R996	EP14X243	2.2K ohm, 5%, l/8W, Carbon
R998	EP14X398	15K ohm, 5%, l/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R116	EP49X463	RF/AFC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X298	Sharpness, lK ohm, 20%
R262	EP49X489	Brightness, 10K ohm, 20%
R330	EP49X465	APC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg., lK ohm, 20%

INTERGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
	EP62X167	HVSD-Thick Film
IC101	EP84X213	VIF/Det/AFC
IC190	EP84X216	IF/Sound
IC300	EP84X221	Chroma/Video
IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V, 3 Ter. Regulator

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
SCR903	EP15X217	SCR Regulator, PNP
Q105	EP15X104	Pre Amp, HF, BiPolar
Q110	EP15X87	Video Emitter Follower NPN, Silicon
Q188	EP15X88	NPN, Silicon
Q191	EP15X228	NPN, Silicon
Q193	EP15X222	PNP, Silicon
Q200	EP15X88	Regulator, NPN, Silicon
Q202	EP15X48	Beam Limiter, PNP, Silicon
Q204	EP15X88	Video Amp, NPN, Silicon
Q207	EP15X225	Video Amp, PNP, Silicon
Q300	EP15X226	Burst Gate, NPN, Silicon
Q501	EP15X86	NPN, Silicon
Q502	EP15X87	NPN, Silicon
Q601	EP15X105	Vertical Output, NPN, Silicon
Q603	EP15X105	Vertical Driver, NPN, Silicon
Q701	EP15X123	Horizontal Driver, NPN, Silicon
Q901	EP15X88	Error Amp, NPN, Silicon
Q903	EP15X91	Regulator Control, NPN, Silicon
Q905	EP15X225	Regulator Trigger, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y190	ES16X27	Silicon
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X3[illegible]	GER.
Y350	EP16X58	17 Volt, Zener
Y352	EP16X58	17 Volt, Zener
Y354	EP16X58	17 Volt, Zener
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon

(CONTINUED)

25 PC-J Parts List (Cont.)

Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP16X154	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
Y939	EP57X4	Rectifier, Silicon
Y951	EP16X19	5.6 Volt, Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
★Y957	EP16X148	36 Volt, Zener
★Y958	EP16X148	36 Volt, Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963	EP16X149	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Rectifier, Silicon
Y992	EP57X13	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
CF100	EP41X126	FILTER-Ceramic, 4.5mhz, Audio
CF105	EP41X143	CERAMIC TRAP-4.5mhz
CF212	EP41X133	TRAP-Ceramic, 3.58mhz
L102	EP36X442	CHOKE-.82µh, 10%
L106	EP36X433	COIL-45.75mhz, Molded
L107	EP36X433	COIL-45.75mhz, Molded
L108	EP36X468	COIL-IF & 41.25mhz, Trap
L150	EP36X142	CHOKE-10µh, 5%
L180	EP36X144	CHOKE-27µh, 5%
L190	EP36X435	COIL-Quad.
L200	EP36X498	COIL-Inductor
L204	EP36X17	CHOKE-150µh, 10%
L212	EP36X136	CHOKE-15µh, 5%
L220	EP36X459	COIL-Delay Line
L236	EP36X136	CHOKE-15µh, 10%
L300	EP36X23	CHOKE-12µh, 5%
L320	EP36X33	CHOKE-56µh, 5%
L321	EP36X33	CHOKE-56µh, 5%
L322	EP36X33	CHOKE-56µh, 5%
★L703	EP36X437	CHOKE-Filament, H.V. Tuning
★L901	EP36X440	COIL-Line Choke Filter
L903	EP36X436	COIL-Filament Choke
★L909	EP36X441	CHOKE-3mh, Regulator
L921	EP36X477	CHOKE-82µh, 5%
L929	EP36X437	CHOKE-Filament, H.V. Tuning
L940	EP36X136	CHOKE-15µh, 10%
SF101	EP41X152	WAVE FILTER
★T701	EP77X58	TRANSFORMER-H.V.
★T703	EP64X57	TRANSFORMER-Buffer
X300	EP41X10	CRYSTAL-Quartz

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP60X13	AIR GAP-For H. V. T.
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903 (4 Used)
	★EP66X19	CORD-AC Power Polarized, Wired-In-Type
FB921	EP12X8	FERRITE BEAD
FB963	EP12X8	FERRITE BEAD
★F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
★F903	ET10X38	FUSE-I.5amp, 250V, Snap-In, Slow Acting
	EP3X38	WASHER-Shoulder, SCR903, Q601 Q603

RGB CIRCUIT BOARD

EP93X550

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EP18X26	.01uf, +80-20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, Hik, Cer. Disc
C406	EP18X270	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X205	560pf, 20%, 50V, HiK, Cer. Disc
C410	EP18X74	330pf, 20%, 50V, HiK, Cer. Disc
C490	EP18X267	4700pf, +80-20%, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, I/4W, Carbon
R404	EP14X289	430 ohm, 5%, I/4W, Carbon
R405	ES14X59	560 oh, 5%, 1/4W, Carbon
★R411	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
★R413	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, I/4W, Carbon
★R415	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, I/4W, Carbon
R418	EP14X128	330 ohm, 5%, I/4W, Carbon
★R419	EP14X38	3.3K ohm, 5%, I/4W, Carbon
★R424	ES14X70	100 ohm, 5%, I/4W, Carbon
★R426	ES14X70	100 ohm, 5%, I/4W, Carbon
★R428	ES14X70	100 ohm, 5%, I/8W, Carbon
R430	EP14X131	1meg ohm, 10%, 1/4W, Carbon
★R434	EP14X329	200 ohm, 5%, I/4W, Carbon
★R436	EP14X329	200 ohm, 5%, I/4W, Carbon
★R438	EP14X318	220 ohm, 5%, I/8W, Carbon
R454	ES14X65	4.7K ohm, 5%, I/4W, Carbon
R456	ES14X65	4.7K ohm, 5%, I/4W, Carbon
R458	ES14X65	4.7K ohm, 5%, I/4W, Carbon
★R464	EP14X381	3K ohm, 5%, I/4W, Carbon
★R466	EP14X381	3K ohm, 5%, I/8W, Carbon
★R468	EP14X381	3K ohm, 5%, I/4W, Carbon
★R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	Red Drive, 150 ohm, 20%
R446	EP49X469	Green Drive, 150 ohm, 20%
R448	EP49X469	Blue Drive, 150 ohm, 20%
R474	EP49X470	Red Cut Off, 5K ohm, 20%
R476	EP49X470	Green Cut Off, 5K ohm, 20%
R478	EP49X470	Blue Cut Off, 5K ohm, 20%

(CONTINUED)

25 PC-J Parts List (Cont.)

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	RED DRIVE-NPN, Silicon
Q406	EP15X61	GREEN DRIVE-NPN, Silicon
Q408	EP15X61	BLUE DRIVE-NPN, Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L403	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL4	EP8X91	CONNECTOR-8 Pos.
★	EP34X69	SOCKET-CRT
	EP2X1	TERMINAL-Speaker Lead Type

HORIZ. HEAT SINK BOARD ASM

EP93X537

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C1901	ES18X13	330pf, 20%, 2KV, Cer. Disc
★C1903	EP25X158	.0175uf, 5%, 1.5KV, Polypropylene
★C1904	EP25X159	.15uf, 10%, 200V, Polypropylene
★C1905	EP25X91	.47uf, 10%, 400V, Polyester
C1907	EP18X217	330pf, 20%, 500V, Cer. Disc
C1909	EP25X151	2700pf, 10%, 100V, Mylar
C1915	EP25X151	2700pf, 10%, 200V, Mylar

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
★R1901	EP14X297	170 ohm, 10%, 7W, Wirewound
R1907	EP14X187	100 ohm, 5%, 1/2W, Carbon
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz Centering, 500 ohm, 10%

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	Horiz Output Damper, NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y1903	EP57X5	Rectifier, Silicon
Y1905	EP57X5	Rectifier, Silicon
Y1907	EP57X5	Rectifier, Silicon

COILS

REF. NO.	PART NO.	DESCRIPTION
★L1901	EP36X449	COIL-Width
L1903	EP36X450	CHOKE-2.5uh, 10%
★L1905	EP36X432	COIL-Linearity
★T1901	EP36X448	COIL-Pincushion Asm

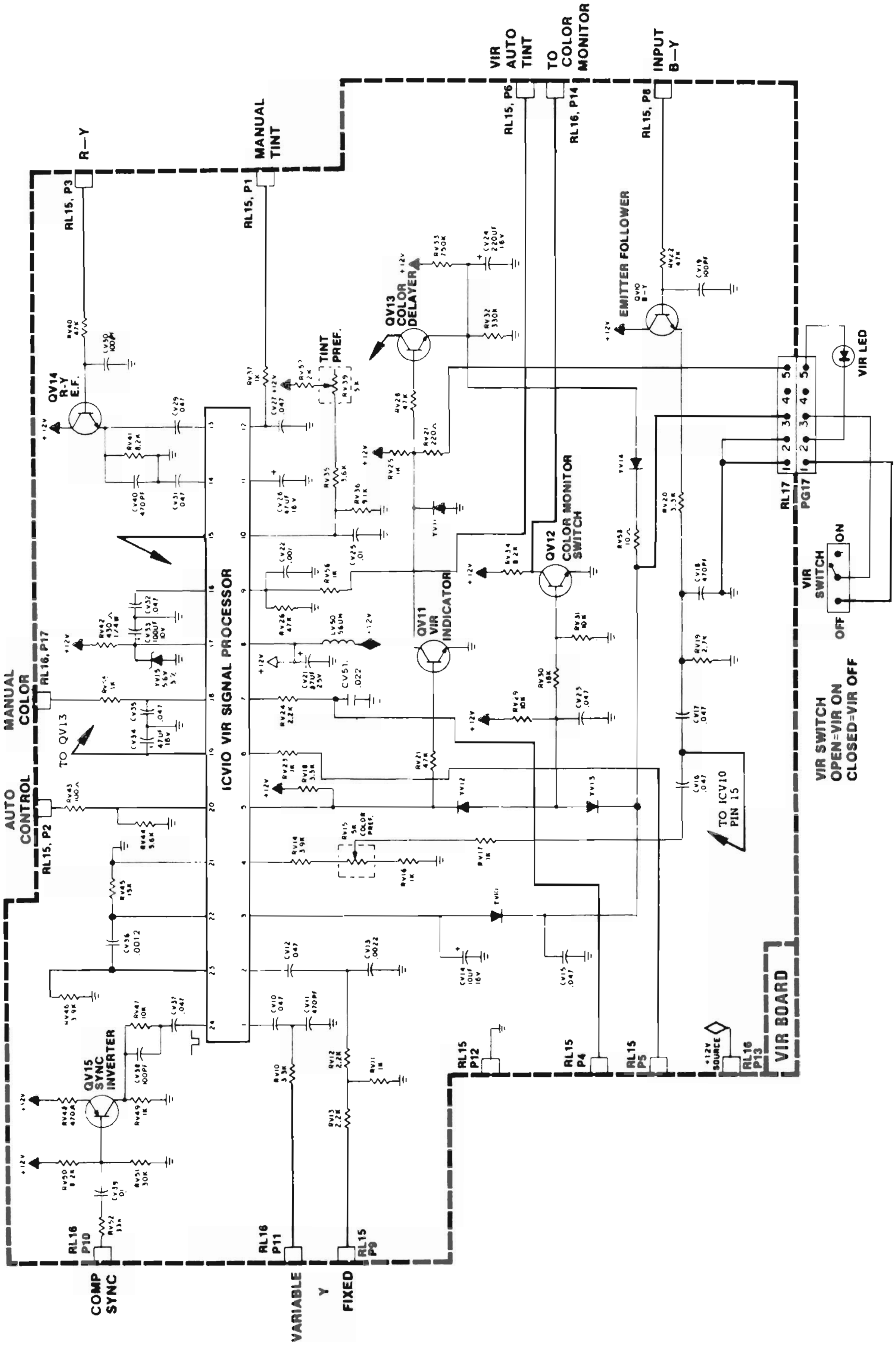
MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EU3X532	CLIP-Ground
RL12	EP8X30	CONNECTOR-1 Pin
FB1901	EP12X2	FERRITE-Bead
FB1903	EP12X2	FERRITE-Bead
	EP3X52	SPACER-Q1901

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PC/VIR BOARD (EP93X462) SCHEMATIC DIAGRAM



PC/VIR BOARD (EP93X462) REPLACEMENT PARTS LIST

VIR CIRCUIT BOARD ASM

EP93X462

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
CV10	EP25X87	.047uf, 20%, 50V, Polyester
CV11	EP18X204	470pf, 10%, 50V, Cer. Disc
CV12	EP25X87	.047uf, 20%, 50V, Polyester
CV13	EP18X198	2200pf, 30%, 25V, Cer. Disc
CV14	EP31X149	10uf, 10%, 16V, Elect.
CV15	EP25X87	.047uf, 20%, 50V, Polyester
CV16	EP25X87	.047uf, 20%, 50V, Polyester
CV17	EP25X87	.047uf, 20%, 50V, Polyester
CV18	EP18X204	470pf, 10%, 50V, Cer. Disc
CV19	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV21	EP31X169	100uf, 10%, 25V, Elect.
CV22	EP18X197	1000pf, 20%, 50V, Cer. Disc
CV23	EP25X87	.047uf, 20%, 50V, Polyester
CV24	EP31X141	220uf, 10%, 16V, Elect.
CV25	EP18X169	.01uf, 30%, 25V, Cer. Disc
CV26	EP31X45	47uf, 10%, 16V, Elect.
CV27	EP25X87	.047uf, 20%, 50V, Polyester
CV29	EP25X87	.047uf, 20%, 50V, Polyester
CV30	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV31	EP25X87	.047uf, 20%, 50V, Polyester
CV32	EP25X87	.047uf, 20%, 50V, Polyester
CV33	EP31X162	100uf, 10%, 10V, Elect.
CV34	EP31X45	47uf, 10%, 16V, Elect.
CV35	EP25X87	.047uf, 20%, 50V, Polyester
CV36	EP18X271	1200pf, 20%, 50V, HiK, Cer. Disc
CV37	EP25X87	.047uf, 20%, 50V, Polyester
CV38	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV39	EP18X169	.01uf, 30%, 25V, Cer. Disc
CV40	EP18X204	470pf, 10%, 50V, Cer. Disc
CV45	EP31X166	1uf, 20%, 50V, Elect.
CV51	EP18X214	.022uf, 20%, 500V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
RV10	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
RV11	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
RV12	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
RV13	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV14	EP14X437	3.9K ohm, 5%, 1/4W, Carbon
RV16	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV17	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV18	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
RV19	EP14X304	2.7K ohm, 5%, 1/4W, Carbon
RV20	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
RV21	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV22	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV23	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV24	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
RV25	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV26	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV27	EP14X129	220 ohm, 5%, 1/4W, Carbon
RV28	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV29	EP14X103	10K ohm, 5%, 1/4W, Carbon
RV30	EP14X414	18K ohm, 5%, 1/4W, Carbon
RV31	EP14X103	10K ohm, 5%, 1/4W, Carbon
RV32	EP14X140	330K ohm, 5%, 1/4W, Carbon
RV33	EP14X438	750K ohm, 5%, 1/4W, Carbon
RV34	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
RV35	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
RV36	EP14X370	9.1K ohm, 5%, 1/4W, Carbon
RV37	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV40	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV41	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
RV42	EP14X289	430 ohm, 5%, 1/4W, Carbon
RV43	ES14X70	100 ohm, 5%, 1/4W, Carbon
RV44	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
RV45	EP14X398	15K ohm, 5%, 1/4W, Carbon
RV46	EP14X437	3.9K ohm, 5%, 1/4W, Carbon
RV47	EP14X103	10K ohm, 5%, 1/4W, Carbon
RV43	ES14X58	470 ohm, 5%, 1/4W, Carbon
RV49	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV50	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
RV51	EP14X419	30K ohm, 5%, 1/4W, Carbon
RV52	EP14X136	33K ohm, 5%, 1/4W, Carbon
RV53	EP14X409	10 ohm, 5%, 1/4W, Carbon
RV55	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV56	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV57	ES14X64	2K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
RV15	EP49X472	5K ohm, 20%
RV39	EP49X472	5K ohm, 20%

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
ICV10	EP84X60	MONO

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
QV10	EP15X88	NPN, Silicon
QV11	EP15X88	NPN, Silicon
QV12	EP15X88	NPN, Silicon
QV13	EP15X88	NPN, Silicon
QV14	EP15X88	NPN, Silicon
QV15	EP15X48	PNP, Silicon

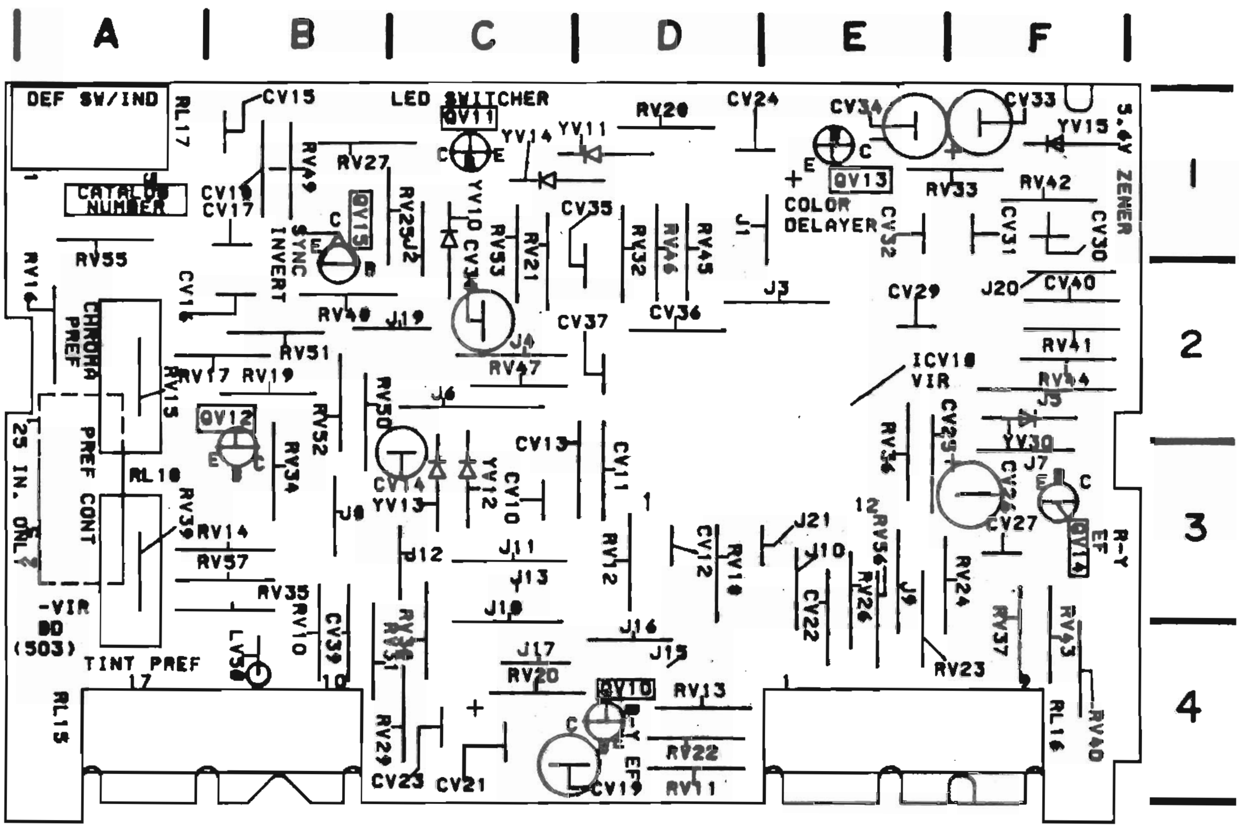
DIODES

REF. NO.	PART NO.	DESCRIPTION
YV10	EU16X11	Silicon
YV11	EU16X11	Silicon
YV12	EU16X11	Silicon
YV13	EU16X11	Silicon
YV14	EU16X11	Silicon
YV15	EP16X19	Zener, 1W

COIL

REF. NO.	PART NO.	DESCRIPTION
LV50	EP36X33	CHOKE-56uh, 5%

PC/VIR CIRCUIT BOARD (EP93X462) COMPONENT LAYOUT



COMPONENT SIDE

CAPACITORS
CV10—B1
CV11—D3
CV12—D3
CV13—D2
CV14—C3
CV15—B1
CV16—A2
CV17—B1
CV19—D4
CV21—C4
CV22—E3
CV23—C4
CV24—D1
CV25—E2
CV26—F3
CV27—F3
CV29—E2
CV38—C2
CV30—F1
CV31—F1
CV32—E1
CV33—F1
CV34—E1
CV35—D1
CV36—D2
CV37—D2
CV39—B3
CV40—F2

RESISTORS	
RV10—B3	RV48—B2
RV11—D4	RV41—F2
RV12—D3	RV42—F1
RV13—D4	RV43—F3
RV14—B3	RV44—F2
RV15—A2	RV45—D1
RV16—A2	RV46—D1
RV17—B2	RV47—C2
RV19—B2	RV49—B1
RV28—D1	RV50—B2
RV20—C4	RV51—B2
RV22—D4	RV52—B2
RV23—E4	RV53—C1
RV24—F3	RV55—A1
RV25—C1	RV56—E3
RV26—E3	RV57—B3
RV27—B1	
RV29—C4	
RV30—C3	
RV31—B3	
RV32—D1	
RV33—E1	
RV34—B3	
RV35—B3	
RV36—E2	
RV37—F3	
RV39—A3	
RV40—F4	

DIODES
YV10—C1
YV11—D1
YV12—C3
YV13—C3
YV14—C1
YV15—F1
YV30—F2

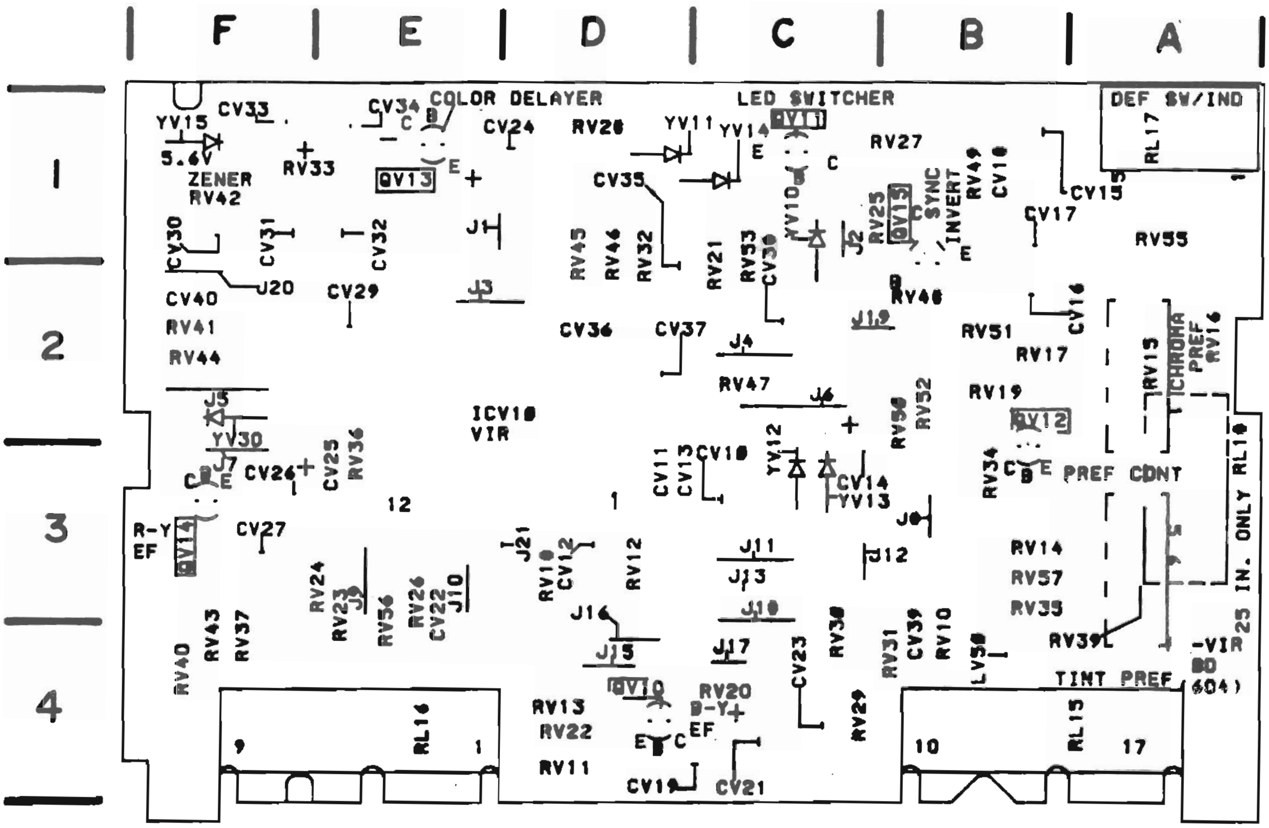
TRANSISTORS
QV10—D4
QV11—C1
QV12—B2
QV13—E1
QV14—F3
QV15—B1

RECEPTACLES
RL10—A3
RL15—A4
RL16—F4
RL17—A1

INTEGRATED CIRCUIT
ICV10—E2

COIL
LV50—B4

PC/VIR CIRCUIT BOARD (EP93X462) COMPONENT LAYOUT (CONT.)



COPPER SIDE

CAPACITORS	RESISTORS		TRANSISTORS
CV10—B1	RV10—B3	RV48—B2	QV10—D4
CV11—D3	RV11—D4	RV41—F2	QV11—C1
CV12—D3	RV12—D3	RV42—F1	QV12—B2
CV13—D2	RV13—D4	RV43—F3	QV13—E1
CV14—C3	RV14—B3	RV44—F2	QV14—F3
CV15—B1	RV15—A2	RV45—D1	QV15—B1
CV16—A2	RV16—A2	RV46—D1	
CV17—B1	RV17—B2	RV47—C2	
CV19—D4	RV19—B2	RV49—B1	
CV21—C4	RV28—D1	RV50—B2	
CV22—E3	RV20—C4	RV51—B2	
CV23—C4	RV22—D4	RV52—B2	
CV24—D1	RV23—E4	RV53—C1	
CV25—E2	RV24—F3	RV55—A1	
CV26—F3	RV25—C1	RV56—E3	
CV27—F3	RV26—E3	RV57—B3	
CV29—E2	RV27—B1		
CV38—C2	RV29—C4		
CV30—F1	RV30—C3		
CV31—F1	RV31—B3		
CV32—E1	RV32—D1		
CV33—F1	RV33—E1		
CV34—E1	RV34—B3		
CV35—D1	RV35—B3		
CV36—D2	RV36—E2		
CV37—D2	RV37—F3		
CV39—B3	RV39—A3		
CV40—F2	RV40—F4		

RECEPTACLES

RL10—A3
RL15—A4
RL16—F4
RL17—A1

INTEGRATED CIRCUIT

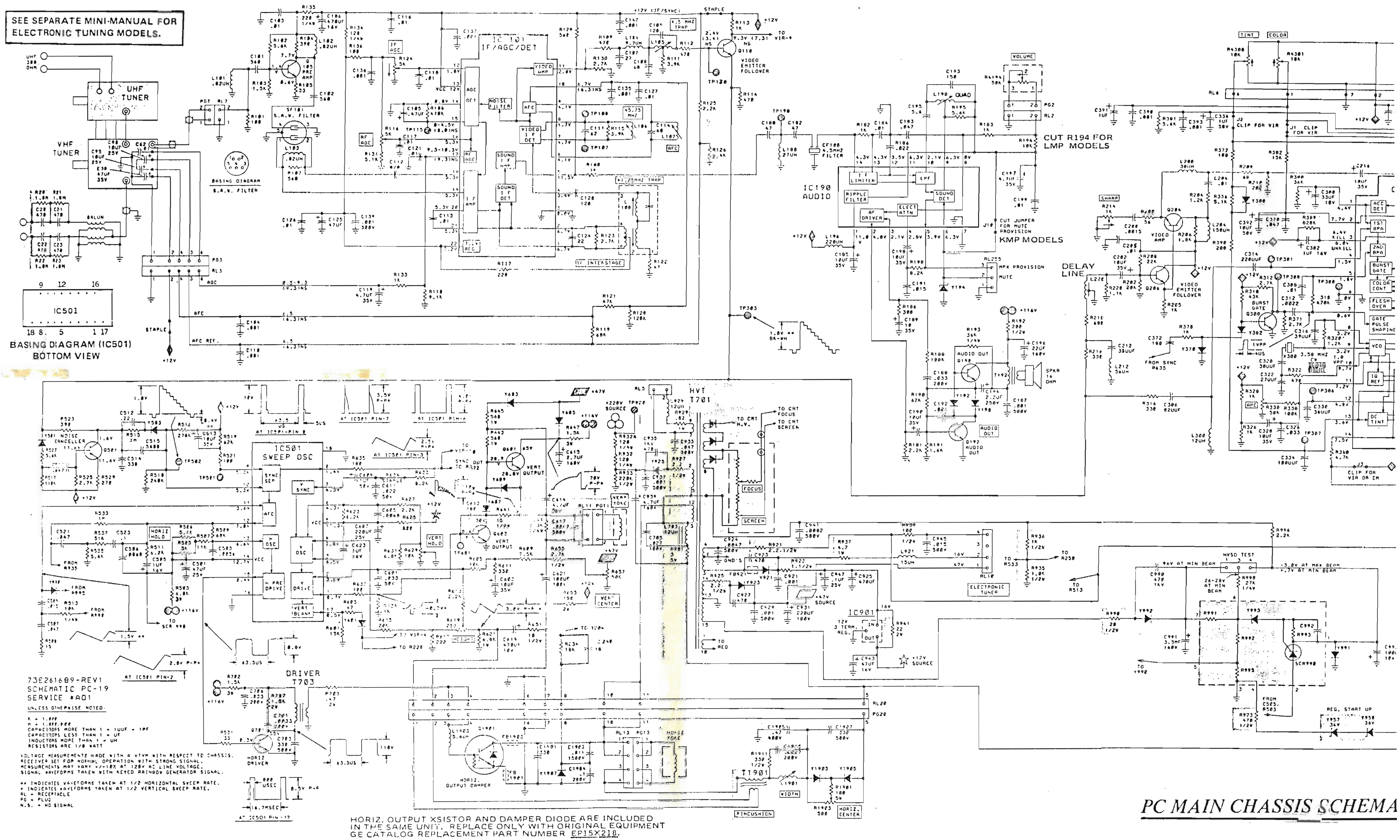
ICV10—E2

DIODES

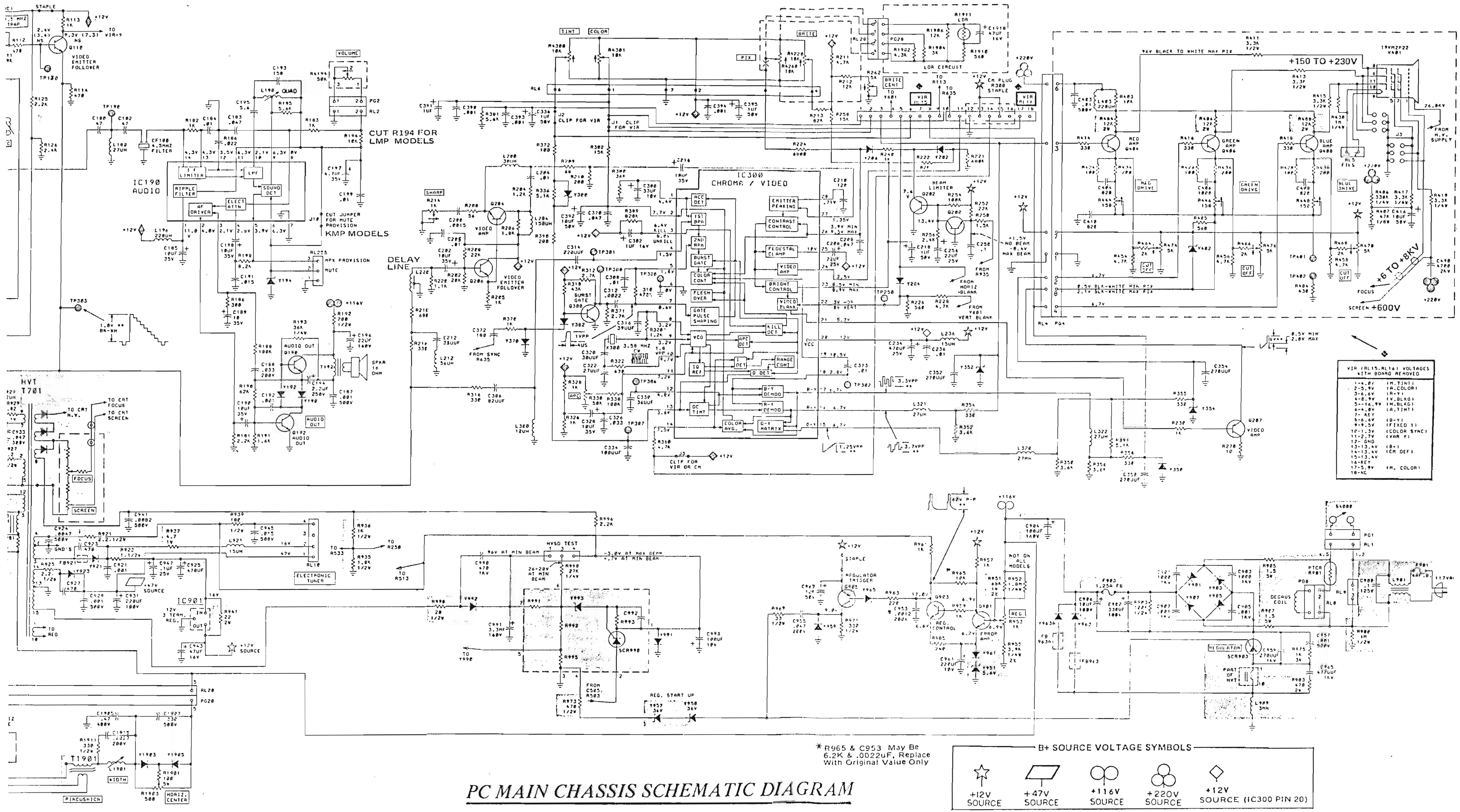
YV10—C1
YV11—D1
YV12—C3
YV13—C3
YV14—C1
YV15—F1
YV30—F2

COIL

LV50—B4

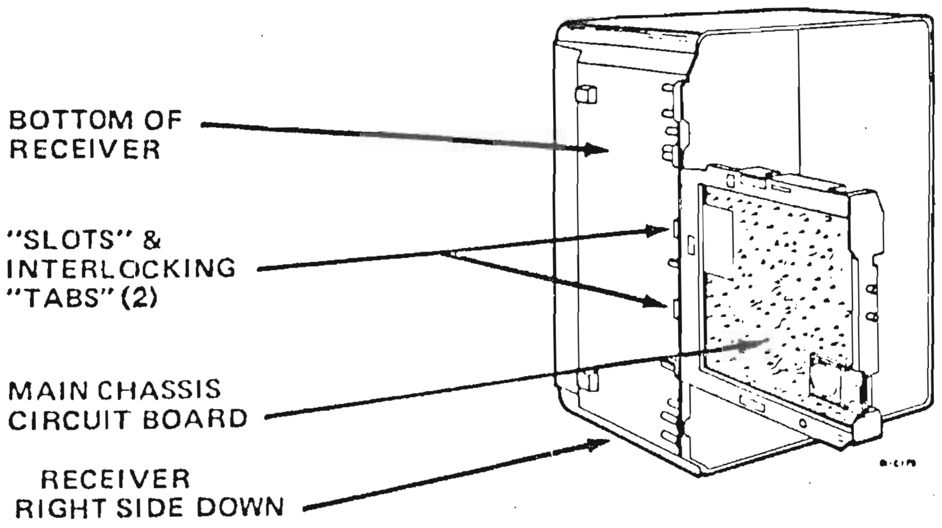


PC MAIN CHASSIS SCHEMA



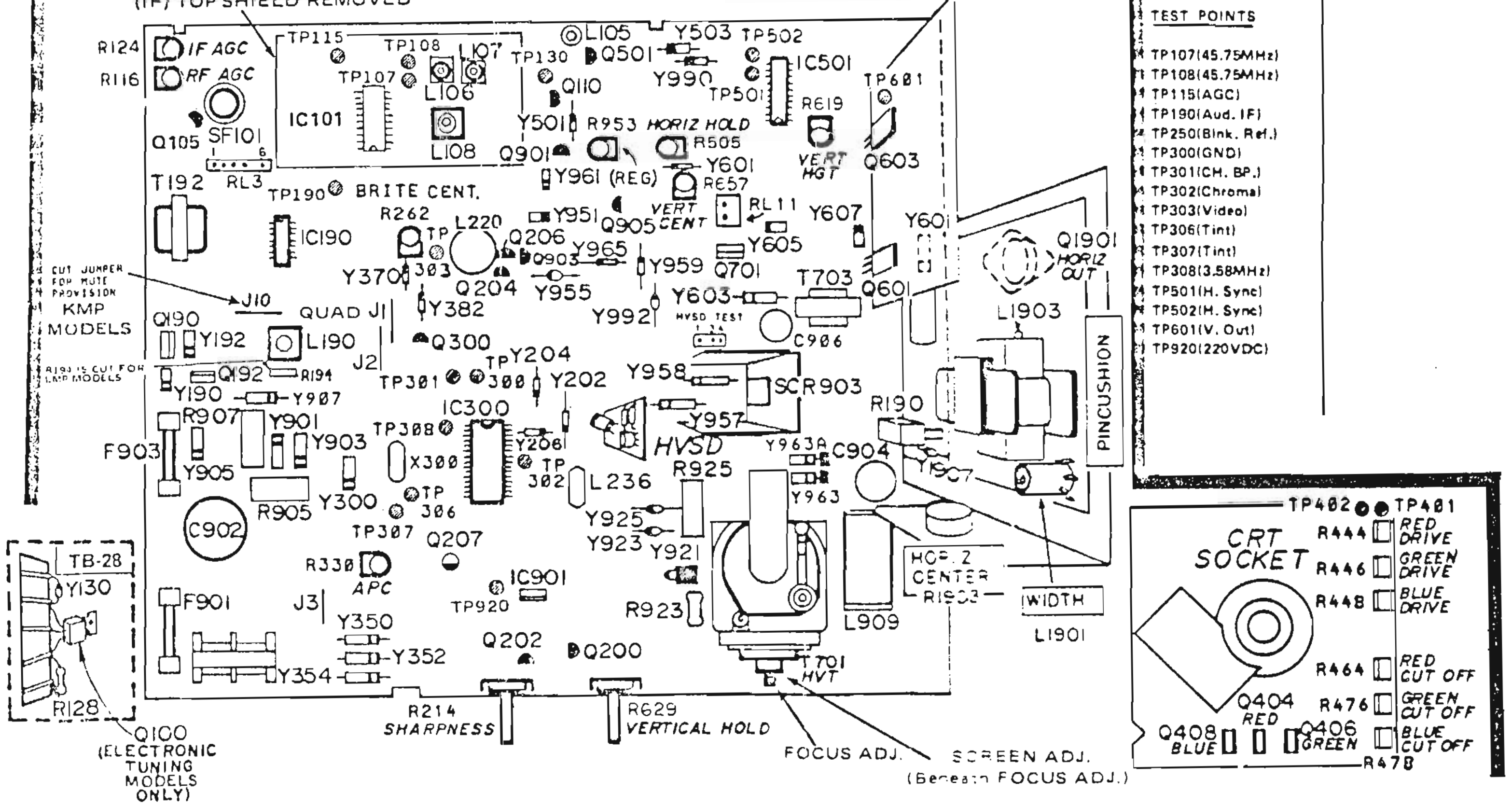
PC MAIN CHASSIS SCHEMATIC DIAGRAM

CHASSIS SERVICE POSITION



THE CIRCUIT BOARD IS HELD IN PLACE BY TWO PLASTIC "QUICK RELEASE" LOCKING CLIPS LOCATED AT THE BOTTOM REAR OF THE CABINET. TO RELEASE THE CIRCUIT BOARD PRESS DOWN ON THE RETAINERS AND SLIDE THE BOARD OUT OF THE CABINET.

PC CHASSIS LAYOUT



TEST POINTS

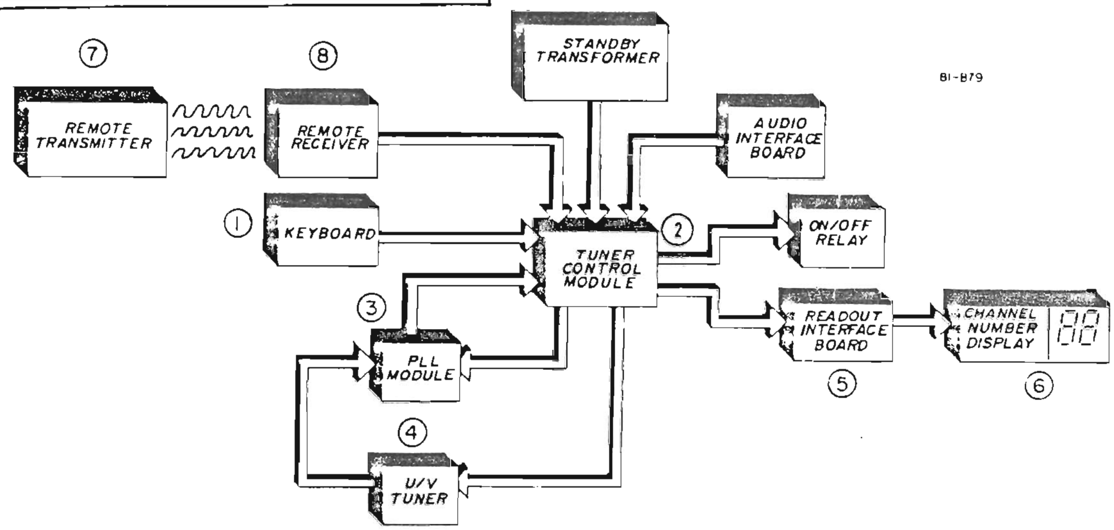
TP107(45.75MHz)
TP108(45.75MHz)
TP115(AGC)
TP190(Aud. IF)
TP250(Blnk. Ref.)
TP300(GND)
TP301(CH. BP.)
TP302(Chroma)
TP303(Video)
TP306(Tint)
TP307(Tint)
TP308(3.58MHz)
TP501(H. Sync)
TP502(H. Sync)
TP601(V. Out)
TP920(220VDC)

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.

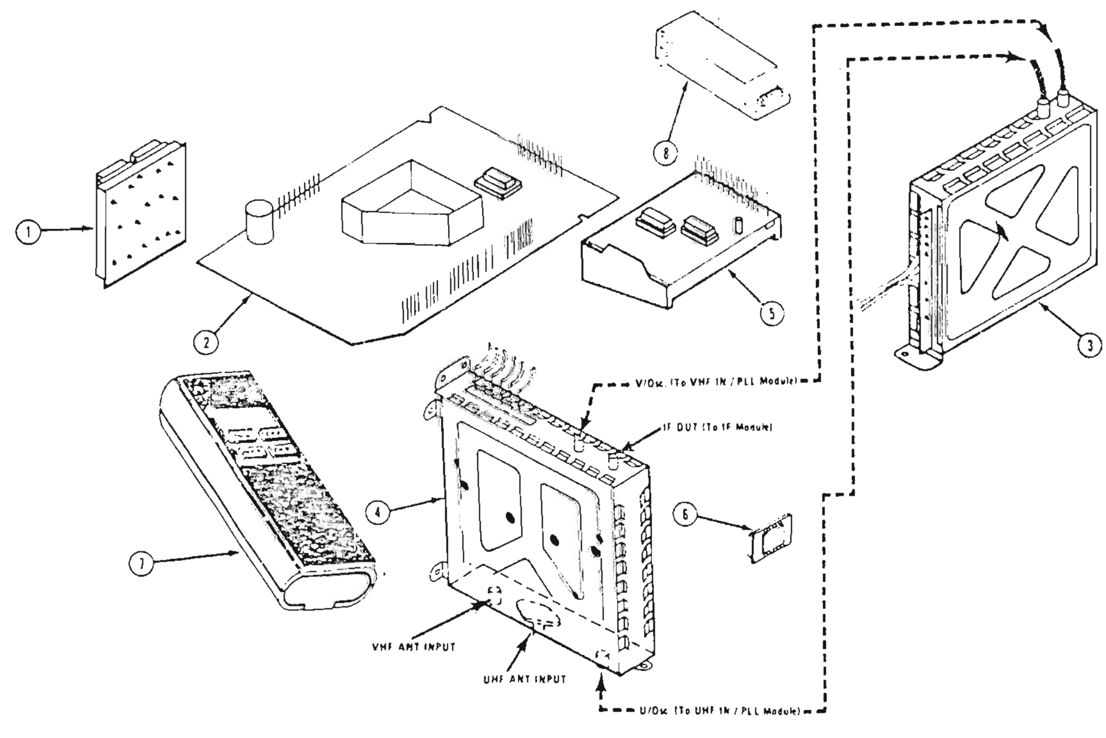
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

LMP91 REMOTE/ELECTRONIC TUNING SYSTEM

PC CHASSIS



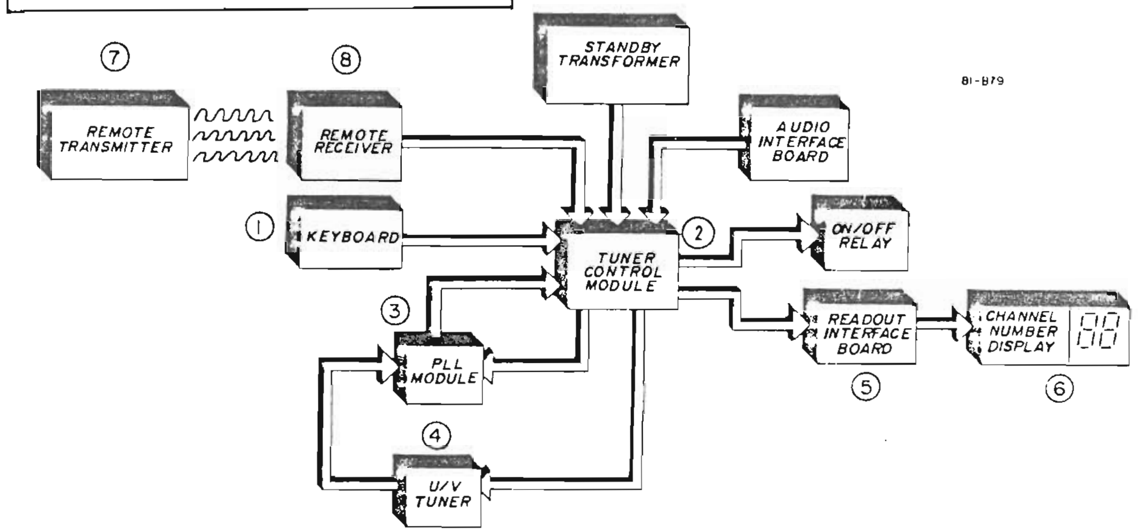
LMP91 TUNING SYSTEM BLOCK DIAGRAM



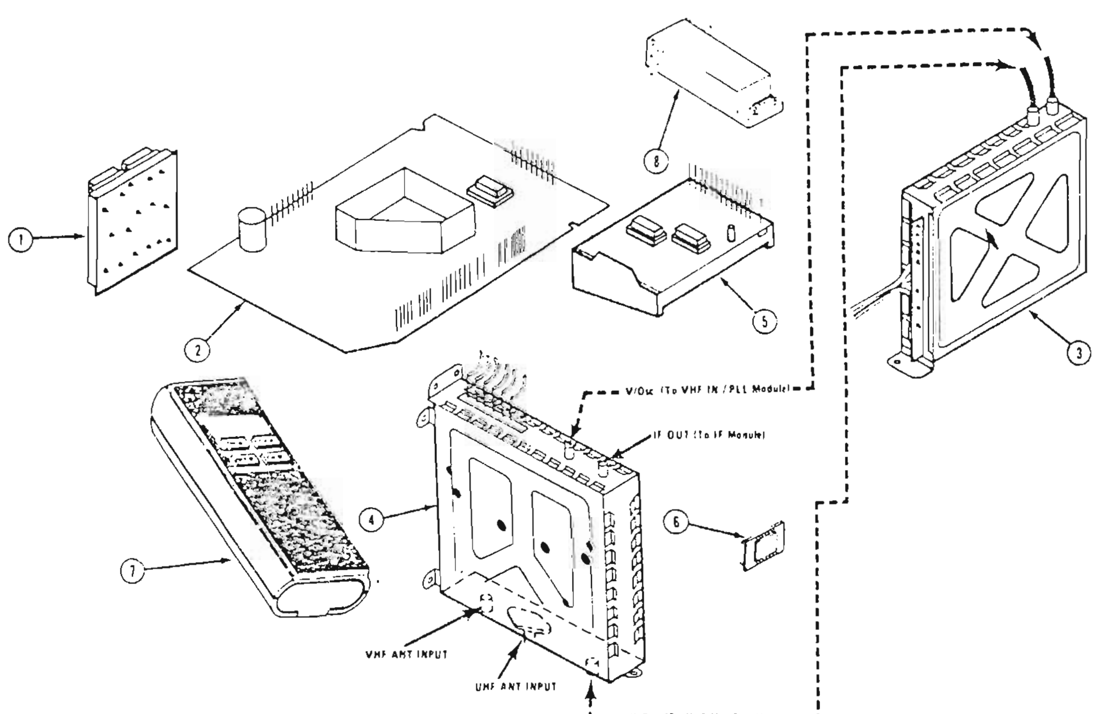
LMP91 TUNING SYSTEM COMPONENT ASSEMBLIES

LMP91 REMOTE/ELECTRONIC TUNING SYSTEM

PC CHASSIS



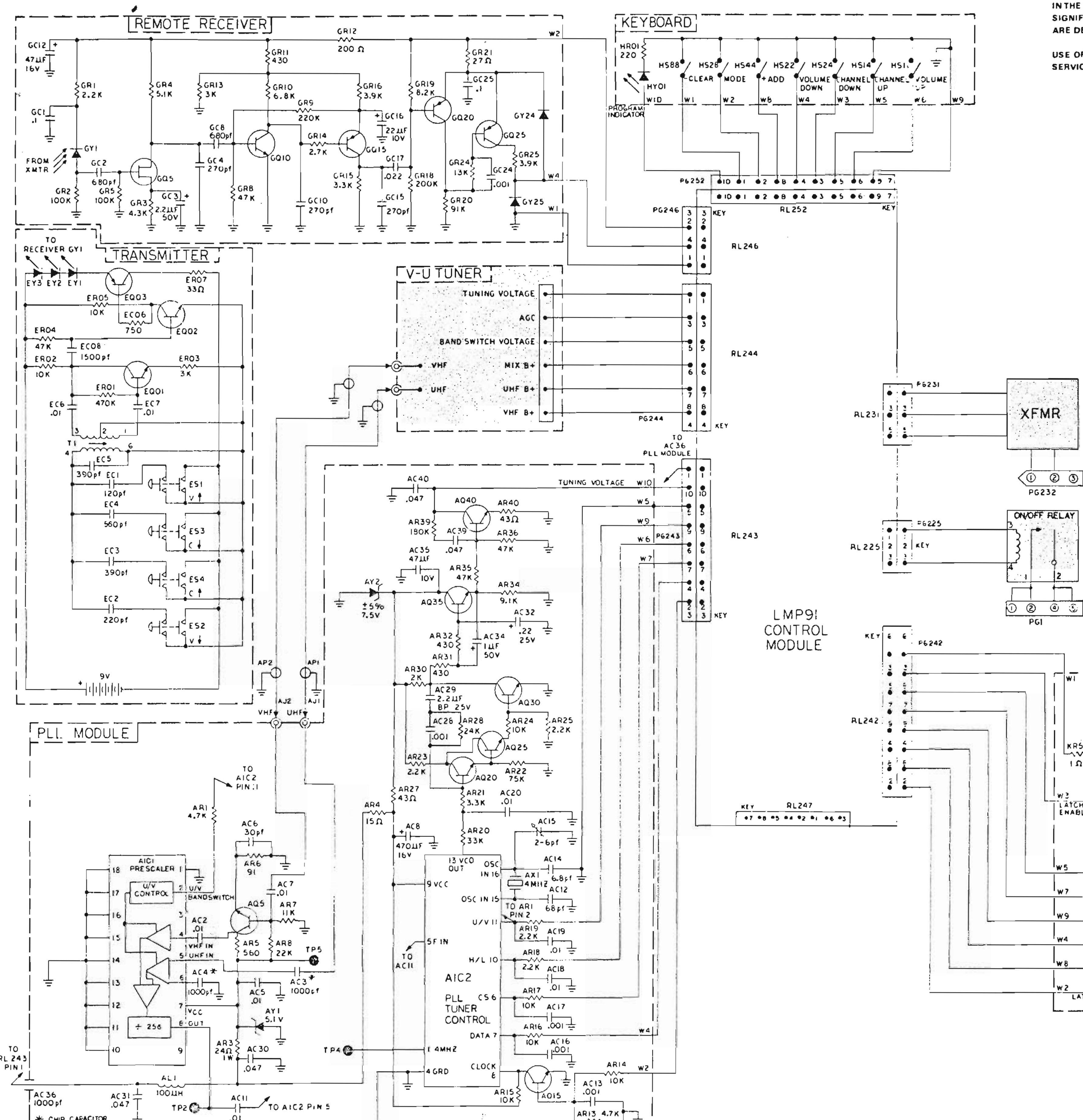
LMP91 TUNING SYSTEM BLOCK DIAGRAM

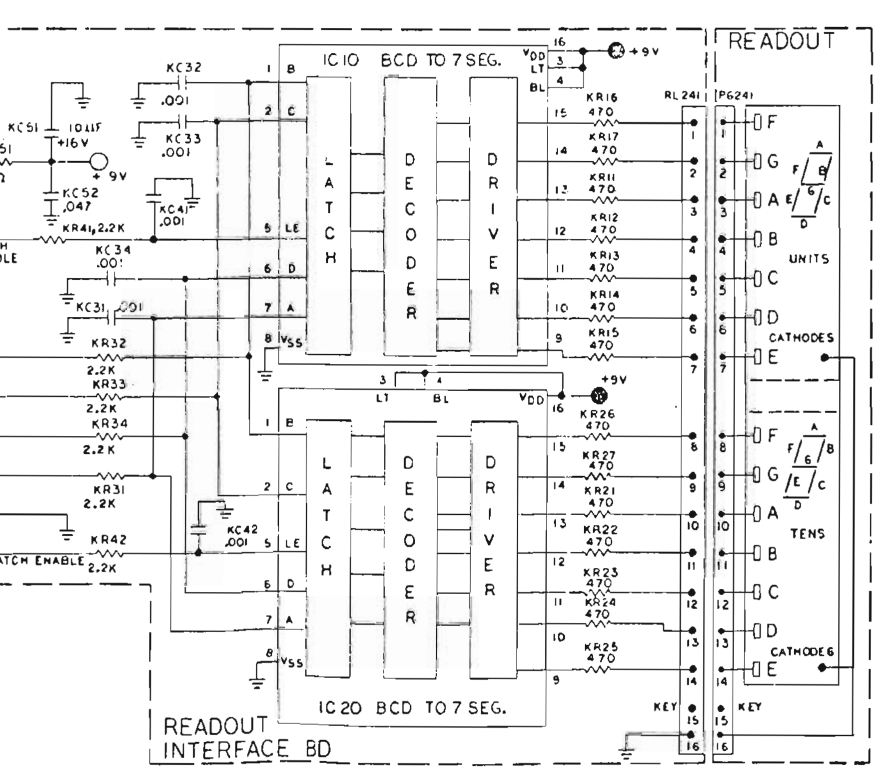


LMP91 TUNING SYSTEM COMPONENT ASSEMBLIES

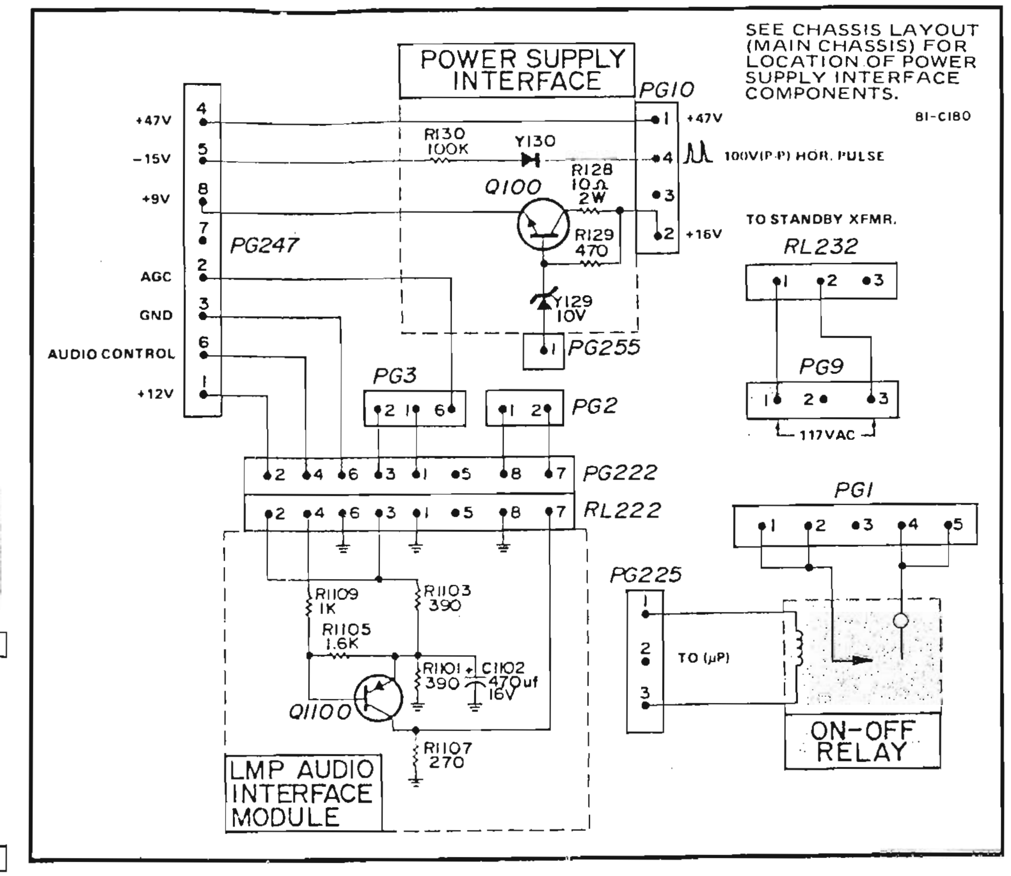
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.

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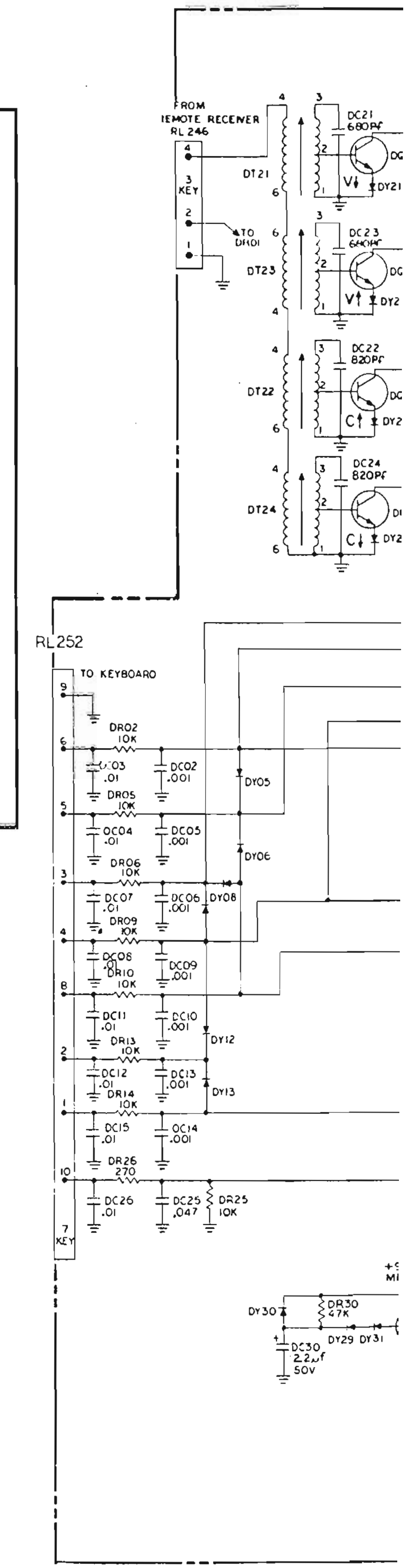




LMP91 ELECTRONIC TUNING SYSTEM SCHEMATIC DIAGRAM

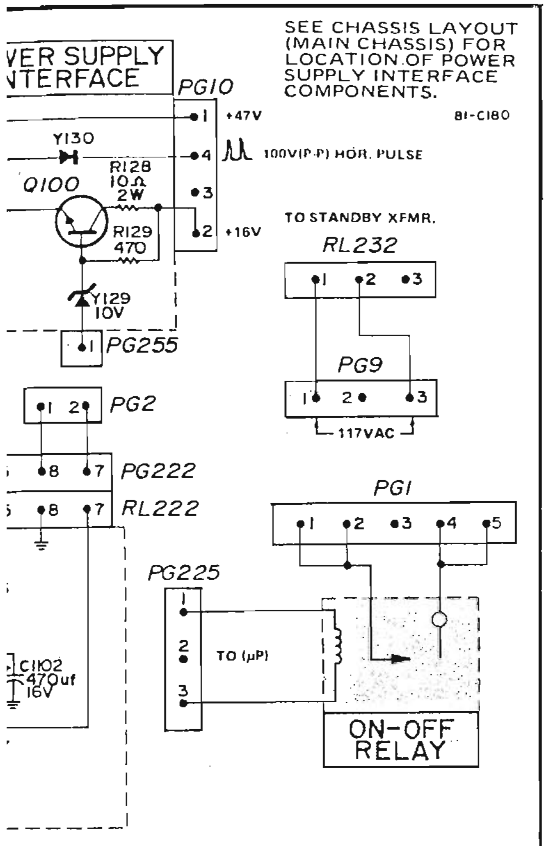


POWER SUPPLY AND AUDIO INTERFACE SCHEMATICS

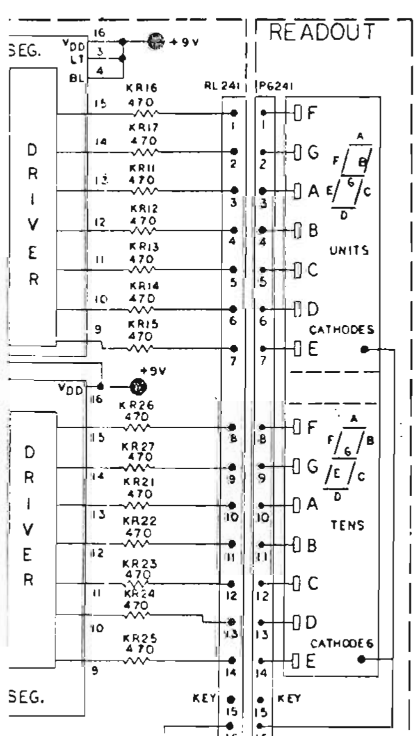


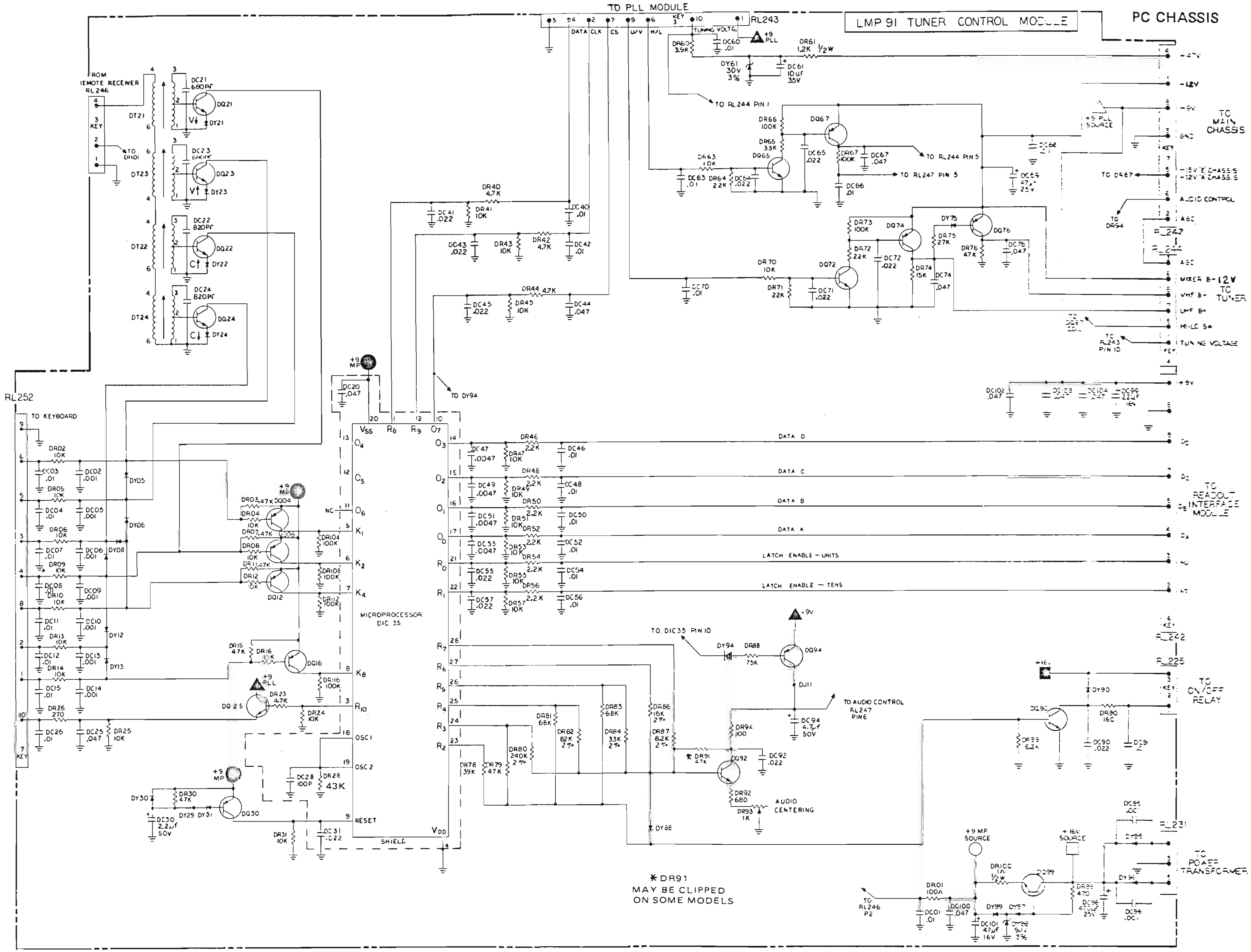
ACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART
AM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL
ALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH
AS ON THE SCHEMATIC DIAGRAM.

E SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY
DS, OR EXCESSIVE X-RADIATION.



AUDIO INTERFACE SCHEMATICS



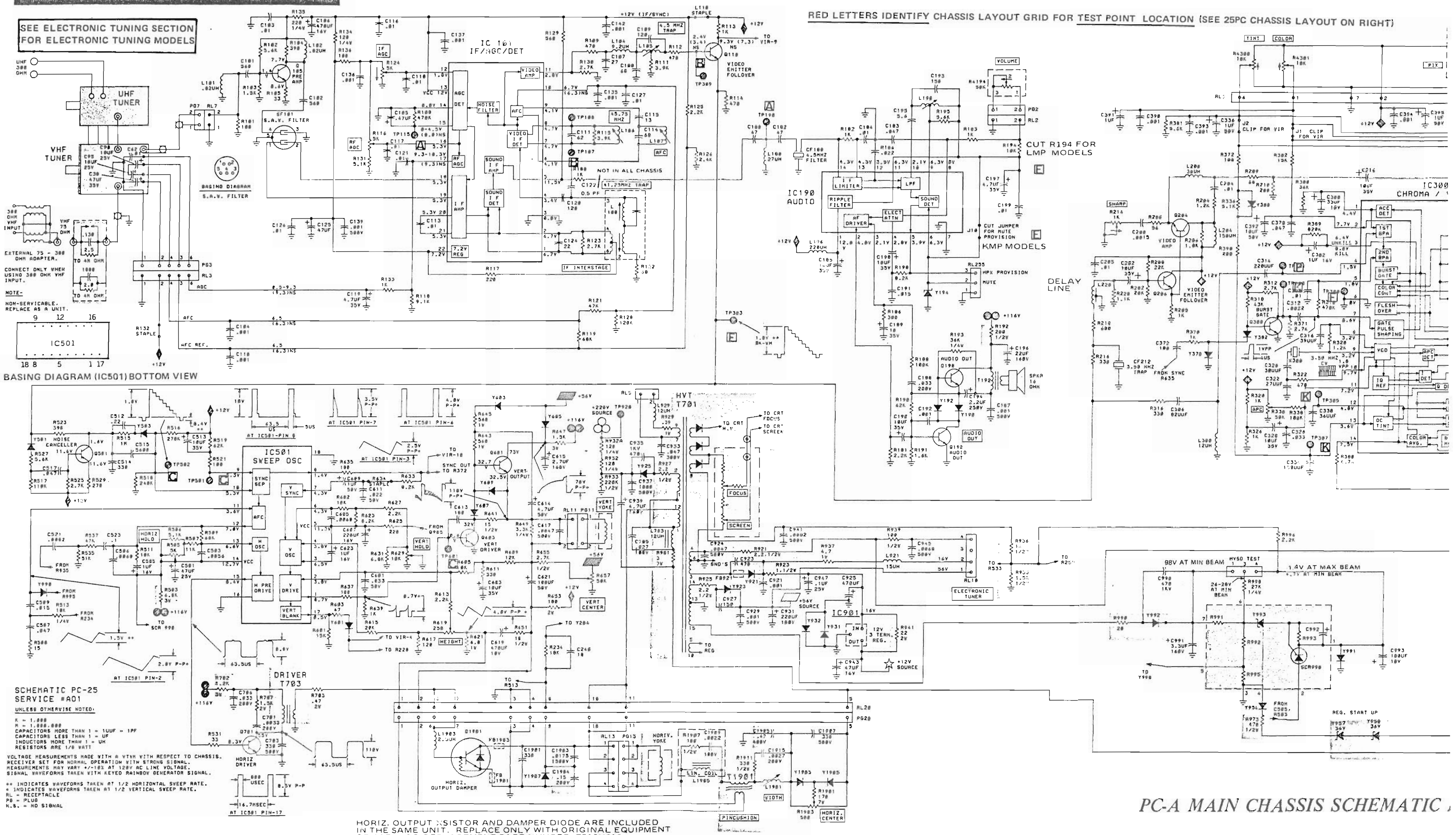


LMP91 TUNER CONTROL MODULE SCHEMATIC DIAGRAM

25" PC-A CHASSIS

SEE ELECTRONIC TUNING SECTION FOR ELECTRONIC TUNING MODELS

RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR TEST POINT LOCATION (SEE 25PC CHASSIS LAYOUT ON RIGHT)



SCHEMATIC PC-25
SERVICE #A01

UNLESS OTHERWISE NOTED:

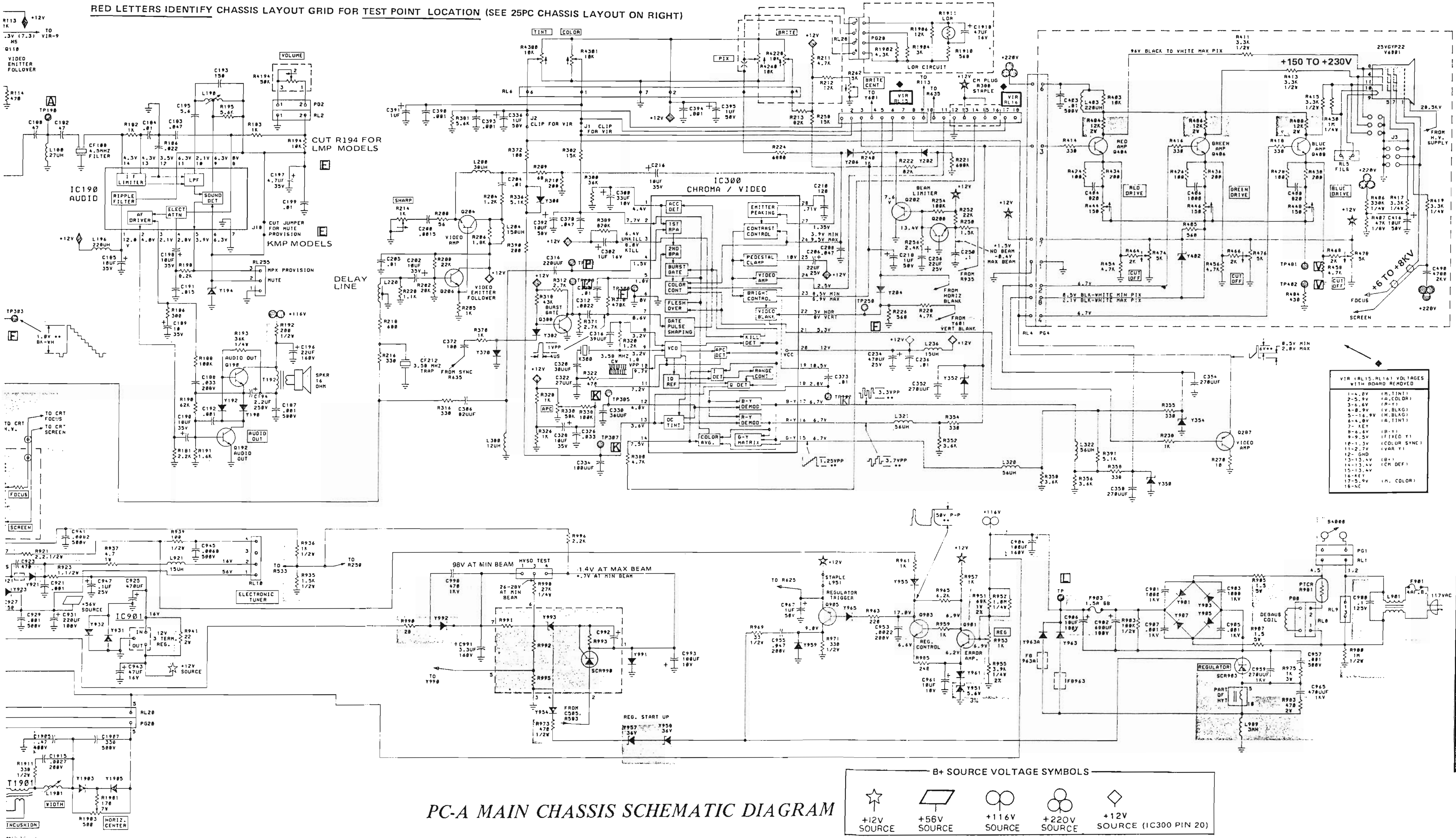
K = 1,000
M = 1,000,000
CAPACITORS MORE THAN 1 = UUF = PF
CAPACITORS LESS THAN 1 = UF
INDUCTORS MORE THAN 1 = UH
RESISTORS ARE 1/2 WATT

VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS.
RECEIVER SET FOR NORMAL OPERATION WITH STRONG SIGNAL.
MEASUREMENTS MAY VARY +/-10% AT 120V AC LINE VOLTAGE.
SIGNAL WAVEFORMS TAKEN WITH KEYED RAINBOW GENERATOR SIGNAL.

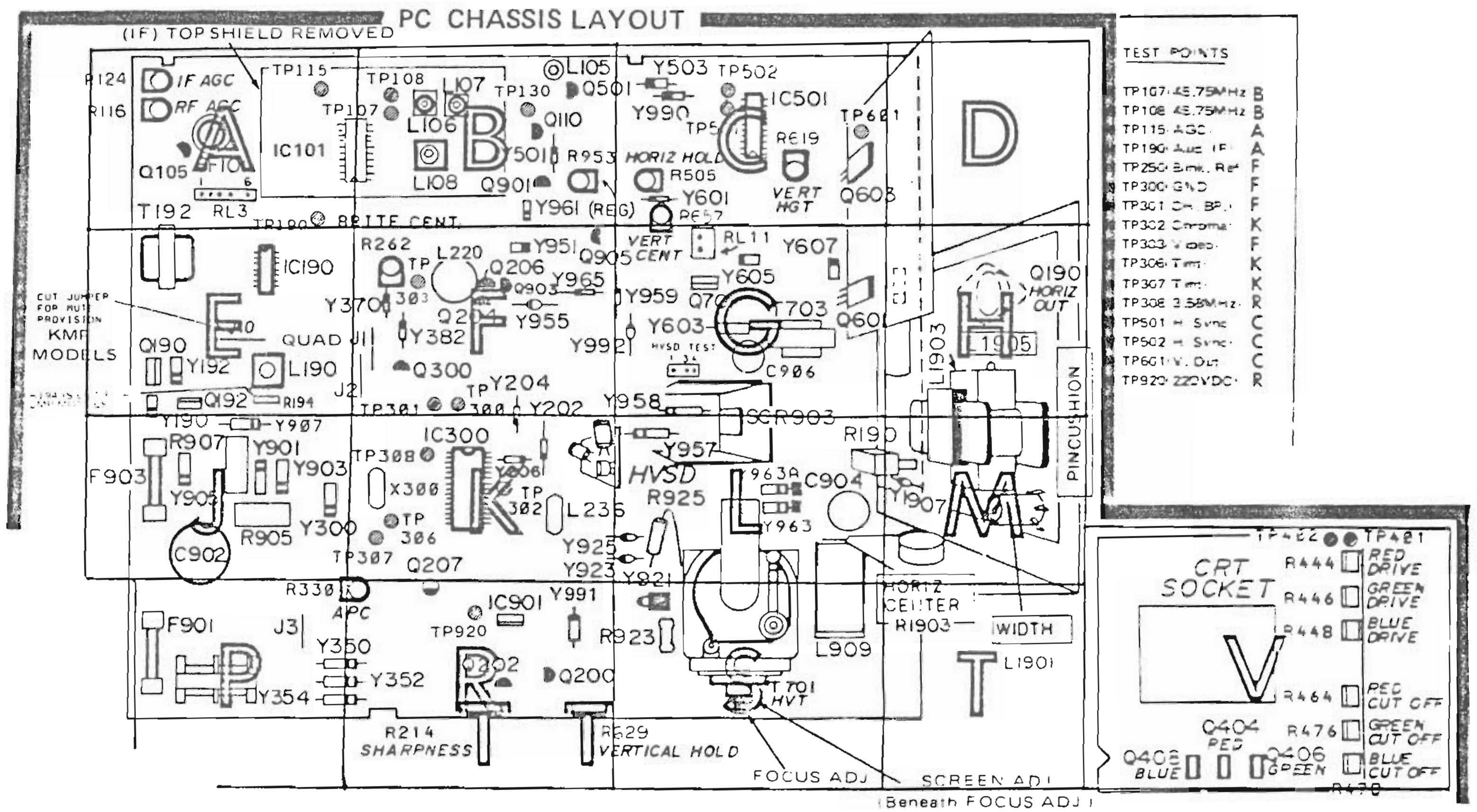
** INDICATES WAVEFORMS TAKEN AT 1/2 HORIZONTAL SWEEP RATE.
* INDICATES WAVEFORMS TAKEN AT 1/2 VERTICAL SWEEP RATE.
RL = RECEPTACLE
PG = PLUG
N.S. = NO SIGNAL

HORIZ. OUTPUT XSISTOR AND DAMPER DIODE ARE INCLUDED IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT GE CATALOG REPLACEMENT PART NUMBER EP15X218.

PC-A MAIN CHASSIS SCHEMATIC



PC-A MAIN CHASSIS SCHEMATIC DIAGRAM



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USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

REF. NO.	PART NO.	DESCRIPTION
205	ES14X71	1K ohm, 5%, 1/8W, Carbon
206	EP14X190	1.8K ohm, 5%, 1/8W, Carbon
208	EP14X303	22K ohm, 5%, 1/8W, Carbon
209	EP14X182	68 ohm, 5%, 1/8W, Carbon
210	Common	200 ohm, 5%, 1/8W, Carbon
211	EP14X249	4.7K ohm, 5%, 1/8W, Carbon
212	EP14X284	12K ohm, 5%, 1/8W, Carbon
213	EP14X271	82K ohm, 5%, 1/8W, Carbon
216	Common	330 ohm, 5%, 1/8W, Carbon
218	EP14X283	680 ohm, 5%, 1/8W, Carbon
220	EP14X189	1.1K ohm, 5%, 1/8W, Carbon
221	EP14X293	680K ohm, 5%, 1/8W, Carbon
222	EP14X271	82K ohm, 5%, 1/8W, Carbon
224	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
226	ES14X59	560 ohm; 5%, 1/8W, Carbon
228	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
230	ES14X71	1K ohm, 5%, 1/8W, Carbon
234	Common	18K ohm, 5%, 1/8W, Carbon
240	ES14X71	1K ohm, 5%, 1/8W, Carbon
250	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
252	EP14X303	22K ohm, 5%, 1/8W, Carbon
254	EP14X105	100K ohm, 5%, 1/8W, Carbon
256	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
258	EP14X285	15K ohm, 5%, 1/8W, Carbon
270	EP14X284	10 ohm, 5%, 1/8W, Carbon
300	Common	36K ohm, 5%, 1/8W, Carbon
302	EP14X285	15K ohm, 5%, 1/8W, Carbon
310	EP14X133	470K ohm, 5%, 1/8W, Carbon
312	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
316	EP14X128	330 ohm, 5%, 1/8W, Carbon
318	Common	43K ohm, 5%, 1/8W, Carbon
320	Common	1.2K ohm, 5%, 1/8W, Carbon
322	ES14X58	470 ohm, 5%, 1/8W, Carbon
326	ES14X71	1K ohm, 5%, 1/8W, Carbon
328	ES14X71	1K ohm, 5%, 1/8W, Carbon
336	Common	5.1K ohm, 5%, 1/8W, Carbon
338	EP14X105	100K ohm, 5%, 1/8W, Carbon
350	Common	3.6K ohm, 5%, 1/8W, Carbon
352	Common	3.6K ohm, 5%, 1/8W, Carbon
354	EP14X128	330 ohm, 5%, 1/8W, Carbon
355	EP14X128	330 ohm, 5%, 1/8W, Carbon
356	Common	3.6K ohm, 5%, 1/8W, Carbon
358	EP14X128	330 ohm, 5%, 1/8W, Carbon
70	EP14X284	1K ohm, 5%, 1/8W, Carbon
71	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
72	EP14X187	100 ohm, 5%, 1/8W, Carbon
80	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
81	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
89	Common	820K ohm, 10%, 1/8W, Carbon
90	Common	200 ohm, 5%, 1/8W, Carbon
91	Common	5.1K ohm, 5%, 1/8W, Carbon
03	EP14X323	6.8K ohm, 5%, 3W, Flame Proof
06	Common	5.1K ohm, 5%, 1/8W, Carbon
07	Common	11K ohm, 5%, 1/8W, Carbon
08	EP14X188	15 ohm, 5%, 1/8W, Carbon
09	EP14X119	68K ohm, 5%, 1/8W, Carbon
11	EP14X103	10K ohm, 5%, 1/8W, Carbon
13	EP14X103	10K ohm, 5%, 1/4W, Carbon
15	EP14X12	1 meg ohm, 5%, 1/8W, Carbon
16	Common	270K ohm, 5%, 1/8W, Carbon
17	Common	110K ohm, 5%, 1/8W, Carbon
8	Common	240K ohm, 5%, 1/8W, Carbon
9	Common	62K ohm, 5%, 1/8W, Carbon
1	EP14X187	100 ohm, 5%, 1/8W, Carbon
3	ES14X57	390 ohm, 5%, 1/8W, Carbon
5	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
7	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
9	Common	270 ohm, 5%, 1/8W, Carbon
1	ES14X56	33 ohm, 5%, 1/8W, Carbon
3	EP14X106	1 meg ohm, 10%, 1/8W, Carbon
5	Common	51K ohm, 5%, 1/8W, Carbon
7	EP14X125	47K ohm, 5%, 1/8W, Carbon
1	EP14X285	15K ohm, 5%, 1/8W, Carbon
2	EP14X284	10K ohm, 5%, 1/8W, Carbon
3	ES14X51	47 ohm, 5%, 1/8W, Carbon
5	EP14X103	10K ohm, 5%, 1/8W, Carbon
9	EP14X284	12K ohm, 5%, 1/8W, Carbon
9	Common	11K ohm, 5%, 1/8W, Carbon +
1	EP14X128	330 ohm, 5%, 1/8W, Carbon
3	EP14X243	2.2K ohm 5%, 1/8W, Carbon
R615	EP14X285	20K ohm, 5%, 1/8W, Carbon
R617	Common	120 ohm, 5%, 1/8W, Carbon
R621	EP14X272	6.8 ohm, 5%, 1W, Metal Oxide
R623	Common	8.2K ohm, 5%, 1/8W, Carbon
R625	Common	220 ohm, 5%, 1/8W, Carbon
R627	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R631	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R633	Common	8.2K ohm, 5%, 1/8W, Carbon
R635	Common	180 ohm, 5%, 1/8W, Carbon
R637	EP14X187	100 ohm, 5%, 1/8W, Carbon
R639	ES14X71	1K ohm, 5%, 1/8W, Carbon
R641	EP14X188	15 ohm, 5%, 1/2W, Carbon
* R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
* R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
* R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R649	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R651	Common	10 ohm, 5%, 1/2W, Carbon
* R653	EP14X220	180 ohm, 5%, 2W, Metal Oxide
R655	Common	2.7K ohm, 5%, 1/2W, Carbon
* R702	EP14X328	1.2K ohm, 5%, 3W, Flame Proof
* R703	EP14X262	.47 ohm, 5%, 2W, Metal Oxide
* R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
* R900	EP14X106	1 meg ohm, 5%, 1/2W, Carbon
* R901	EP14X330	Degaussing
R903	EP14X105	100K ohm, 5%, 1/2W, Carbon
* R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
* R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
* R921	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
* R923	ES14X79	1 ohm, 5%, 1/2W, Flame Proof
* R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
* R927	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R929	EP14X266	.39 ohm, 5%, 1W, Metal Oxide
R932	Common	120 ohm, 5%, 1/4W, Carbon
R932A	Common	120 ohm, 5%, 1/4W, Carbon
R933	Common	220K ohm, 5%, 1/2W, Carbon
* R935	ES14X62	1.5K ohm, 5%, 1/2W, Carbon
* R936	EU13X4	1K ohm, 5%, 1/2W, Carbon
* R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R939	EP14X187	100 ohm, 5%, 1/2W, Carbon
* R941	EP14X154	22 ohm, 5%, 2W, Metal Oxide
* R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
R952	Common	1.8 meg, ohm, 5%, 1/4W, Carbon
* R955	EP14X252	3.9K ohm, 2%, 1/8W, Carbon
R957	EP14X284	1K ohm, 5%, 1/8W, Carbon
R959	EP14X284	1K ohm, 5%, 1/8W, Carbon
R961	ES14X71	1K ohm, 5%, 1/8W, Carbon
R963	Common	220 ohm, 5%, 1/8W, Carbon
R965	Common	6.2K ohm, 5%, 1/8W, Carbon
R969	ES14X56	33 ohm, 5%, 1/2W, Carbon
R971	EP14X128	330 ohm, 5%, 1/2W, Carbon
* R973	ES14X58	470 ohm, 5%, 1/2W, Carbon +
* R975	EP14X275	1K ohm, 10%, 3W, Wirewound
* R981	EP14X258	3 ohm, 5%, 7W, Wirewound
* R983	EP14X321	470 ohm, 5%, 2W, Metal Oxide
R985	Common	240 ohm, 5%, 1/8W, Carbon
* R990	830020 ~~EP14X269~~	20 ohm, 5%, 1/2W, Carbon
R996	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R998	Common	27K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF NO	PART NO.	DESCRIPTION
R116	EP49X463	RF/AFC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X464	Sharpness. 1K ohm, 20%
R262	EP49X463	Brightness, 5K ohm, 20%
R330	EP49X465	APC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg . 1K ohm, 20%

INTERGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
*	EP62X167	HVSD-Thick Film
IC101	EP84X213	VIF/Det/AFC
IC190	EP84X216	IF/Sound
IC300	EP84X221	Chroma/Video
IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V, 3 Ter. Regulator
CF100	EP41X126	Ceramic Filter, 4.5mhz, Audio
CF212	EP41X133	Ceramic Trap, 3.58mhz
SF101	EP41X123	Wave Filter
X300	EP41X10	Crystal-Quartz

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
* SCR903	EP15X217	SCR Regular, PNP
Q105	EP15X104	HF, BiPolar
Q110	EP15X87	NPN, Silicon
Q190	EP15X19	NPN, Silicon
Q192	EP15X19	NPN, Silicon
Q200	EP15X88	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q204	EP15X88	NPN, Silicon
Q206	EP15X83	NPN, Silicon
Q207	EP15X57	PNP, Silicon
Q300	EP15X88	NPN, Silicon
Q501	EP15X48	PNP, Silicon
Q601	EP15X105	NPN, Silicon
Q603	EP15X105	NPN, Silicon
Q701	EP15X19	NPN, Silicon
Q901	EP15X88	NPN, Silicon
Q903	EP15X91	NPN, Silicon
Q905	EP15X57	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y190	EP57X4	Rectifier, Silicon
Y192	EP57X4	Rectifier, Silicon
Y194	EP16X58	Zener
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X147	Schockley
Y350	EP16X58	Zener
Y352	EP16X58	Zener
Y354	EP16X58	Zener
Y370	ES16X27	Silicon
Y382	ES16X27	Silicon
Y501	ES16X27	Silicon
Y503	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP57X5	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
* Y951	EP16X19	Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
* Y957	EP16X148	Zener
* Y958	EP16X148	Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963	EP16X149	Rectifier, Silicon
Y963A	EP16X149	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Silicon
* Y992	EP57X5	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
L101	EP36X442	CHOKE-.82uh, 10%
L102	EP36X442	CHOKE-.82uh, 10%
L103	EP36X442	CHOKE-.82uh, 10%
L104	EP36X4	CHOKE-9.2uh
L105	EP36X312	COIL-4.5mc, Trap
L106	EP36X433	COIL-45.75mhz, Molded
L107	EP36X433	COIL-45.75mhz, Molded
L108	EP36X434	COIL-IF & 41.25mhz, Trap
L110	EP36X436	CHOKE-Filament +
L180	EP36X144	CHOKE-27uh, 5%
L190	EP36X435	COIL-Quad.
L196	ES36X82	CHOKE-220uh, 20%
L200	EP36X314	CHOKE-30uh, 10%
L204	EP36X17	CHOKE-150uh, 10%
L220	EP36X439	COIL-Delay Line
L236	EP36X136	CHOKE-15uh, 10%
L259	EP36X442	CHOKE-.82uh, 20%
L300	EP36X23	CHOKE-12uh, 5%
L320	EP36X33	CHOKE-56uh, 5%
L321	EP36X33	CHOKE-56uh, 5%
L322	EP36X33	CHOKE-56uh, 5%
* L703	EP36X437	CHOKE-Filament, H.V. Tuning
* L901	EP36X440	COIL-Line Choke Filter
* L909	EP36X441	CHOKE-3uh, Regulator
L921	EP36X136	CHOKE-15uh, 5%
L929	EP36X437	CHOKE-Filament, H.V. Tuning
T192	EP64X58	TRANSFORMER-Audio Output
* T701	EP77X58	TRANSFORMER-H.V.
* T703	EP64X57	TRANSFORMER-Buffer

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903
*	EP66X19	CORD-AC Power Polarized, Wired-In-Type
FB206	EP12X4	FERRITE BEAD
FB921	EP12X8	FERRITE BEAD
FB963	EP12X8	FERRITE BEAD
FB963A	EP12X8	FERRITE BEAD
* F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
* F903	ET10X38	FUSE-1.5amp, 250V, Snap-In, Slow Acting
	EP3X38	WASHER-Sholder, SCR 903, Q601 Q603

+ Indicates part may appear in early production boards

RGB CIRCUIT BOARD ASM

EP93X392

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EU22X216	.01uf, 20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C406	EP18X81	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C416	EP31X35	10uf, 10%, 50V, Elect.
C490	EP18X267	4700pf, 20%, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, 1/8W, Carbon
R404	EP14X289	430 ohm, 5%, 1/8W, Carbon
R405	ES14X59	560 ohm, 5%, 1/8W, Carbon
R406	EP14X140	330K ohm, 5%, 1/4W, Carbon
R407	EP14X125	47K ohm, 5%, 1/8W, Carbon
R411	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R413	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, 1/8W, Carbon
R415	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, 1/8W, Carbon
R417	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R418	EP14X128	330 ohm, 5%, 1/8W, Carbon
R419	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R424	EP14X187	100 ohm, 5%, 1/8W, Carbon
R426	EP14X187	100 ohm, 5%, 1/8W, Carbon

CONTINUED →

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

ohm, 5%, 1/8W, Carbon
8K ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
0 ohm, 5%, 1/8W, Carbon
7K ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
0 ohm, 5%, 1/8W, Carbon
0 ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
0K ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
8K ohm, 5%, 1/8W, Carbon
0 ohm; 5%, 1/8W, Carbon
7K ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
5K ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
0K ohm, 5%, 1/8W, Carbon
4K ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
0K ohm, 5%, 1/8W, Carbon
7K ohm, 5%, 1/8W, Carbon
0 ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
2K ohm, 5%, 1/8W, Carbon
0 ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
0K ohm, 5%, 1/8W, Carbon
5K ohm, 5%, 1/8W, Carbon
5K ohm, 5%, 1/8W, Carbon
0 ohm, 5%, 1/8W, Carbon
0 ohm, 5%, 1/8W, Carbon
5K ohm, 5%, 1/8W, Carbon
0 ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
0 ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
K ohm, 10%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
K ohm, 5%, 3W, Flame Proof
K ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/4W, Carbon
eg ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
eg ohm, 10%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon +
ohm, 5%, 1/8W, Carbon
ohm 5%, 1/8W, Carbon

	R615	EP14X285	20K ohm, 5%, 1/8W, Carbon
	R617	Common	120 ohm, 5%, 1/8W, Carbon
	R621	EP14X272	6.8 ohm, 5%, 1W, Metal Oxide
	R623	Common	8.2K ohm, 5%, 1/8W, Carbon
	R625	Common	220 ohm, 5%, 1/8W, Carbon
	R627	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
	R631	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
	R633	Common	8.2K ohm, 5%, 1/8W, Carbon
	R635	Common	180 ohm, 5%, 1/8W, Carbon
	R637	EP14X187	100 ohm, 5%, 1/8W, Carbon
	R639	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R641	EP14X188	15 ohm, 5%, 1/2W, Carbon
*	R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
*	R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
*	R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
	R649	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
	R651	Common	10 ohm, 5%, 1/2W, Carbon
*	R653	EP14X220	180 ohm, 5%, 2W, Metal Oxide
	R655	Common	2.7K ohm, 5%, 1/2W, Carbon
*	R702	EP14X328	1.2K ohm, 5%, 3W, Flame Proof
*	R703	EP14X262	.47 ohm, 5%, 2W, Metal Oxide
*	R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
*	R900	EP14X106	1 meg ohm, 5%, 1/2W, Carbon
*	R901	EP14X330	Degaussing
	R903	EP14X105	100K ohm, 5%, 1/2W, Carbon
*	R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
*	R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
*	R921	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
*	R923	ES14X79	1 ohm, 5%, 1/2W, Flame Proof
*	R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
*	R927	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
	R929	EP14X266	.39 ohm, 5%, 1W, Metal Oxide
	R932	Common	120 ohm, 5%, 1/4W, Carbon
	R932A	Common	120 ohm, 5%, 1/4W, Carbon
	R933	Common	220K ohm, 5%, 1/2W, Carbon
*	R935	ES14X62	1.5K ohm, 5%, 1/2W, Carbon
*	R936	EU13X4	1K ohm, 5%, 1/2W, Carbon
*	R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
	R939	EP14X187	100 ohm, 5%, 1/2W, Carbon
*	R941	EP14X154	22 ohm, 5%, 2W, Metal Oxide
*	R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
	R952	Common	1.8 meg, ohm, 5%, 1/4W, Carbon
*	R955	EP14X252	3.9K ohm, 2%, 1/8W, Carbon
	R957	EP14X284	1K ohm, 5%, 1/8W, Carbon
	R959	EP14X284	1K ohm, 5%, 1/8W, Carbon
	R961	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R963	Common	220 ohm, 5%, 1/8W, Carbon
	R965	Common	6.2K ohm, 5%, 1/8W, Carbon
	R969	ES14X56	33 ohm, 5%, 1/2W, Carbon
	R971	EP14X128	330 ohm, 5%, 1/2W, Carbon
*	R973	ES14X58	470 ohm, 5%, 1/2W, Carbon +
*	R975	EP14X275	1K ohm, 10%, 3W, Wirewound
*	R981	EP14X258	3 ohm, 5%, 7W, Wirewound
*	R983	EP14X321	470 ohm, 5%, 2W, Metal Oxide
	R985	Common	240 ohm, 5%, 1/8W, Carbon
*	R990	830020 ~~EP14X269~~	20 ohm, 5%, 1/2W, Carbon
	R996	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
	R998	Common	27K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

	REF. NO.	PART NO.	DESCRIPTION
	R116	EP49X463	RF/AFC, 5K ohm, 20%
	R124	EP49X463	IF/AGC, 5K ohm, 20%
	R214	EP49X464	Sharpness. 1K ohm, 20%
	R262	EP49X463	Brightness, 5K ohm, 20%
	R330	EP49X465	APC, 50K ohm, 20%
	R505	EP49X463	Horiz. Hold, 5K ohm, 20%
	R619	EP49X466	Vert. Height, 250 ohm, 20%
	R629	EP49X467	Vert. Hold, 10K ohm, 20%
	R657	EP49X465	Vert. Centering, 50K ohm, 20%
	R953	EP49X468	Reg., 1K ohm, 20%

INTERGRATED CIRCUITS

	REF. NO.	PART NO.	DESCRIPTION
*		EP62X167	HVSD-Thick Film
	IC101	EP84X213	VIF/Det/AFC
	IC190	EP84X216	IF/Sound
	IC300	EP84X221	Chroma/Video
	IC501	EP84X215	Sync. Sep.
	IC901	EP84X217	12V, 3 Ter. Regulator
	CF100	EP41X126	Ceramic Filter, 4.5mhz, Audio
	CF212	EP41X133	Ceramic Trap, 3.58mhz
	SF101	EP41X123	Wave Filter
	X300	EP41X10	Crystal-Quartz

TRANSISTORS

	REF. NO.	PART NO.	DESCRIPTION
*	SCR903	EP15X217	SCR Regular, PNP
	Q105	EP15X104	HF, BiPolar
	Q110	EP15X87	NPN, Silicon
	Q190	EP15X19	NPN, Silicon
	Q192	EP15X19	NPN, Silicon
	Q200	EP15X88	NPN, Silicon
	Q202	EP15X48	PNP, Silicon
	Q204	EP15X88	NPN, Silicon
	Q206	EP15X83	NPN, Silicon
	Q207	EP15X57	PNP, Silicon
	Q300	EP15X88	NPN, Silicon
	Q501	EP15X48	PNP, Silicon
	Q601	EP15X105	NPN, Silicon
	Q603	EP15X105	NPN, Silicon
	Q701	EP15X19	NPN, Silicon
	Q901	EP15X88	NPN, Silicon
	Q903	EP15X91	NPN, Silicon
	Q905	EP15X57	PNP, Silicon

DIODES

	REF. NO.	PART NO	DESCRIPTION
	Y190	EP57X4	Rectifier, Silicon
	Y192	EP57X4	Rectifier, Silicon
	Y194	EP16X58	Zener
	Y202	ES16X27	Silicon
	Y204	ES16X27	Silicon
	Y206	ES16X27	Silicon
	Y300	EP16X147	Schockley
	Y350	EP16X58	Zener
	Y352	EP16X58	Zener
	Y354	EP16X58	Zener
	Y370	ES16X27	Silicon
	Y382	ES16X27	Silicon
	Y501	ES16X27	Silicon
	Y503	ES16X27	Silicon
	Y601	ES16X27	Silicon
	Y603	EP57X4	Rectifier, Silicon
	Y605	EP57X4	Rectifier, Silicon
	Y607	EP57X4	Rectifier, Silicon
	Y609	EP57X4	Rectifier, Silicon
	Y901	EP57X4	Rectifier, Silicon
	Y903	EP57X4	Rectifier, Silicon
	Y905	EP57X4	Rectifier, Silicon
	Y907	EP57X4	Rectifier, Silicon
	Y921	EP16X149	Rectifier, Fast Recovery
	Y923	EP57X5	Rectifier, Silicon
	Y925	EP57X5	Rectifier, Silicon
	Y931	EU16X11	Silicon
	Y932	EU16X11	Silicon
*	Y951	EP16X19	Zener
	Y954	ES16X27	Silicon
	Y955	EP57X5	Rectifier, Silicon
*	Y957	EP16X148	Zener
*	Y958	EP16X148	Zener
	Y959	ES16X27	Silicon
	Y961	ES16X27	Silicon
	Y963	EP16X149	Rectifier, Silicon
	Y963A	EP16X149	Rectifier, Silicon
	Y965	EU16X11	Silicon
	Y990	ES16X27	Silicon
	Y991	EP57X4	Silicon
*	Y992	EP57X5	Rectifier, Silicon

COILS AND TRANSFORMERS

	REF. NO.	PART NO.	DESCRIPTION
	L101	EP36X442	CHOKE-.82uh, 10%
	L102	EP36X442	CHOKE-.82uh, 10%
	L103	EP36X442	CHOKE-.82uh, 10%
	L104	EP36X4	CHOKE-9.2uh
	L105	EP36X312	COIL-4.5mc, Trap
	L106	EP36X433	COIL-45.75mhz, Molded
	L107	EP36X433	COIL-45.75mhz, Molded
	L108	EP36X434	COIL-IF & 41.25mhz, Trap
	L110	EP36X436	CHOKE-Filament +
	L180	EP36X144	CHOKE-27uh, 5%
	L190	EP36X435	COIL-Quad.
	L196	ES36X82	CHOKE-220uh, 20%
	L200	EP36X314	CHOKE-30uh, 10%
	L204	EP36X17	CHOKE-150uh, 10%
	L220	EP36X439	COIL-Delay Line
	L236	EP36X136	CHOKE-15uh, 10%
	L259	EP36X442	CHOKE-.82uh, 20%
	L300	EP36X23	CHOKE-12uh, 5%
	L320	EP36X33	CHOKE-56uh, 5%
	L321	EP36X33	CHOKE-56uh, 5%
	L322	EP36X33	CHOKE-56uh, 5%
*	L703	EP36X437	CHOKE-Filament, H.V. Tuning
*	L901	EP36X440	COIL-Line Choke Filter
*	L909	EP36X441	CHOKE-3uh, Regulator
	L921	EP36X136	CHOKE-15uh, 5%
	L929	EP36X437	CHOKE-Filament, H.V. Tuning
	T192	EP64X58	TRANSFORMER-Audio Output
*	T701	EP77X58	TRANSFORMER-H.V.
*	T703	EP64X57	TRANSFORMER-Buffer

MISCELLANEOUS

	REF. NO.	PART NO.	DESCRIPTION
		EP8X36	ANODE-CRT Cap
		EP2X539	BRACKET-HVT Support, Plastic
		EP3X7	CLIP-Fuse, F901/F903
*		EP66X19	CORD-AC Power Polarized, Wired-In-Type
	FB206	EP12X4	FERRITE BEAD
	FB921	EP12X8	FERRITE BEAD
	FB963	EP12X8	FERRITE BEAD
	FB963A	EP12X8	FERRITE BEAD
*	F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
*	F903	ET10X38	FUSE-1.5amp, 250V, Snap-In, Slow Acting
		EP3X38	WASHER-Sholder, SCR 903, Q601 Q603

+ Indicates part may appear in early production boards

RGB CIRCUIT BOARD ASM

EP93X392

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EU22X216	.01uf, 20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C406	EP18X81	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C416	EP31X35	10uf, 10%, 50V, Elect.
C490	EP18X267	4700pf, 20%, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, 1/8W, Carbon
R404	EP14X289	430 ohm, 5%, 1/8W, Carbon
R405	ES14X59	560 ohm, 5%, 1/8W, Carbon
R406	EP14X140	330K ohm, 5%, 1/4W, Carbon
R407	EP14X125	47K ohm, 5%, 1/8W, Carbon
R411	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R413	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, 1/8W, Carbon
R415	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, 1/8W, Carbon
R417	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R418	EP14X128	330 ohm, 5%, 1/8W, Carbon
R419	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R424	EP14X187	100 ohm, 5%, 1/8W, Carbon
R426	EP14X187	100 ohm, 5%, 1/8W, Carbon

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

CONTINUED →

25 PC-A MAIN CHASSIS REPLACEMENT PARTS LIST

25" PC-A CHASSIS ASM

CIRCUIT BOARD ASSEMBLIES

PART NO.	DESCRIPTION
	Main Circuit Board
EP93X392	RGB Circuit Board
EP93X349	Horiz. Heat Sink Circuit Board
EP93X390	VIR Circuit Board

CHASSIS

PARTS NOT ON CIRCUIT BOARDS

CAPACITORS

REF NO	PART NO	DESCRIPTION
C30	EP31X45	47uf, 25V, Elect.
C60	ES25X22	.01uf, 20%, 50V, Polyester
C90	EP31X149	10uf, 35V, Elect.
C95	EP31X149	10uf, 35V, Elect.
C232	EP31X147	47uf, +100-10%, 250V, Elect.
C4000	EP18X81	1000pf, +80-20%, 1KV, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO	DESCRIPTION
R10	EP14X154	22 ohm, 5%, 1W, Carbon
R12	EP14X54	18 ohm, 5%, 1W, Carbon
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz. Centering

TRANSISTOR

REF NO.	PART NO.	DESCRIPTION
Q100	ES15X125	NPN, Silicon
Q1901	EP15X218	NPN, Silicon

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COILS & TRANSFORMER

REF. NO	PART NO.	DESCRIPTION
	EP36X451	COIL-Degaussing (2 Used)
	EP42X8	CONVERGENCE ASM.
	EP76X33	YOKE
L50	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-75 to 300 ohm (Antenna)
	EP2X553	BRACKET-CRT Corner Mounting, Metal
	EP2X544	BRACKET-Ckt. Bd. Support, Plastic
	EP2X543	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H.V.T. Support, Plastic
	EP2X542	BRACKET-VIR Board Mounting, Plastic
	EP8X97	CABLE-Coaxial, VHF to UHF
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-ET91 to UHF & MMP To UHF
	EP2X90	CLAMP-Yoke & Covn. Retainer
RL1	EP8X93	CONNECTOR-5 Pos.
RL2	EP8X93	CONNECTOR-5 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL6	EP8X66	CONNECTOR-7 Pos.
RL7	EP8X68	CONNECTOR-2 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-3 Pos. (KMP112/LMP112)
PG12	EP8X30	CONNECTOR-1 Pin
RL16A	EP8X66	CONNECTOR-7 Pos.
RL17	EP8X90	CONNECTOR-5 Pos.
RL18	EP8X71	CONNECTOR-6 Pos.
RL28	EP8X42	CONNECTOR-4 Pins
RL59	EP8X43	CONNECTOR-2 Pins
PG250	EP8X43	CONNECTOR-2 Pins
	EP66X19	CORD-AC Power, Polarized, Wired In-Type
	EP3X41	CUSHION-Yoke Wedge
	EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
	EP92X102	FRAME-Rear Support, For Main Board, Plastic
	EP34X41	SOCKET-Q100
	EP90X3	Wire Tie

MAIN CIRCUIT BOARD PC-A 25"

CAPACITORS

	REF. NO	PART NO.	DESCRIPTION
	C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
	C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
	C103	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
	C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
	C105	EP31X138	.47uf, 20%, 50V, Elect.
	C106	EP31X159	470pf, +50-10%, 16V, Elect.
	C107	EP18X187	27pf, 5%, 50V, Cer. Disc
	C108	EP18X191	68pf, 5%, 50V, Cer. Disc
	C109	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
	C110	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
	C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
	C112	EP18X180	820pf, 10%, 50V, SHiK, Cer. Disc
	C113	EP22X32	.01uf, 10%, 50V, SHiK, Cer. Disc
	C114	EP18X191	68pf, 5%, 50V, Cer. Disc
	C115	EP18X101	13pf, 5%, 50V, NPO, Cer. Disc +
	C116	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
	C117	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
	C118	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
	C119	EP31X11	4.7uf, 20%, 35V, Elect.
	C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
	C121	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
	C124	EP18X186	22pf, 10%, 50V, NPO, Cer. Disc
	C125	EP31X45	47uf, 20%, 10V, Elect.
	C126	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
	C127	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
	C135	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
	C136	EP18X220	1000pf, 10%, 500V, Cer. Disc
	C137	EP18X220	1000pf, 10%, 500V, Cer. Disc
	C139	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
	C140	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc+
	C142	EP18X259	1000pf, 20%, 500V, Cer. Disc
	C180	EP18X189	47pf, 5%, 50V, Cer. Disc
	C182	ES18X82	47pf, 5%, 50V, Cer. Disc
	C183	EP25X87	.047uf, 10%, 50V, Polyester
	C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
	C185	EP31X149	10uf, 20%, 35V, Elect.
	C186	EP25X130	.022uf, 10%, 50V, Polyester
	C187	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
	C188	EP25X146	.033uf, 10%, 200V, Mylar
	C189	EP31X149	10uf, 20%, 35V, Elect.
	C190	EP31X149	10uf, 20%, 35V, Elect.
	C191	EP18X170	.015uf, 10%, 25V, Cer. Disc
	C192	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
	C193	EP18X192	150pf, 5%, 50V, NPO, Cer. Disc
	C194	EP31X152	2.2uf, +50-20%, 250V, Elect.
	C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
	C196	EP31X153	22uf, +50-10%, 160V, Elect.
	C197	EP31X11	4.7uf, 20%, 35V, Elect.
	C198	EP31X149	10uf, 20%, 35V, Elect.
	C199	EP18X169	.01uf, 30%, 25V, Cer. Disc
	C200	EP18X212	1500pf, 10%, 50V, Cer. Disc
	C202	EP31X149	10uf, 10%, 35V, Elect.
	C204	EP18X169	.01uf, 30%, 25V, Cer. Disc
	C205	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
	C206	EP31X44	22uf, 20%, 25V, Elect.
	C208	EP18X167	.047uf, 20%, 50V, HiK, Cer. Disc
	C210	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
	C216	EP31X149	10uf, 10%, 35V, Elect.
	C218	EP31X78	1uf, 20%, 50V, Elect.
	C234	EP31X59	470uf, 10%, 25V, Elect.
	C236	EP18X169	.01uf, 30%, 25V, Elect.
	C240	ES18X56	18pf, 10%, 500V, Cer. Disc
	C244	EP31X150	10uf, 20%, 35V, Elect.
	C250	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
	C256	EP31X44	22uf, 20%, 25V, Elect.
	C300	EW31X116	33uf, +50=20%, 10V, Elect.
	C302	EP31X49	1uf, 10%, 16V, Elect.
	C306	EP18X122	82pf, 5%, 50V, Cer. Disc
	C308	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
	C312	EP18X198	2200pf, 30%, 25V, NPO, Cer. Disc
	C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
	C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
	C320	EP18X219	30pf, 5%, 50V, Cer. Disc
	C322	EP18X187	27pf, 5%, 50V, Cer. Disc
	C326	EP25X124	.033uf, 20%, 50V, Polyester
	C328	EP31X149	10uf, 20%, 35V, Elect.
	C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
	C334	EP18X194	100pf, 5%, 50V, Cer. Disc
	C336	EP31X78	1uf, 20%, 50V, Elect.
	C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
	C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
	C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
	C370	EP25X87	.047uf, 20%, 50V, Polyester
	C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
	C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc
	C390	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
	C391	EP31X78	1uf, 20%, 50V, Elect.
	C392	EP31X149	10uf, 20%, 35V, Elect.
	C393	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
	C394	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
	C395	EP31X78	1uf, 20%, 50V, Elect.
	C501	EP31X45	47uf, 20%, 16V, Elect.
	C503	EP25X149	5600pf, 5%, 100V, Polypropylene
	C505	ES31X34	2.2uf, 20%, 16V, Elect.
	C505	EP31X49	1uf, 10%, 16V, Elect. +
	C506	EP25X150	6800pf, 10%, 50V, Polyester
	C507	EP25X87	.047uf, 10%, 50V, Polyester
	C509	EP25X127	.015uf, 10%, 50V, Polyester
	C512	EP25X95	.22uf, 10%, 50V, Polyester
	C513	EP31X149	10uf, 20%, 35V, Elect.
	C514	EP18X217	330pf, 10%, 50V, SHiK, Cer. Disc
	C515	EP25X94	5600pf, 10%, 50V, Polyester
	C517	EP25X87	.047uf, 10%, 50V, Polyester
	C521	EP25X160	8200pf, 10%, 50V, Polyester
	C523	EP25X77	.1uf, 20%, 50V, Polyester
	C601	EP25X124	.033uf, 10%, 50V, Polyester
	C603	EP31X149	10uf, 20%, 35V, Elect.
	C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Disc
	C607	EP31X141	220uf, 20%, 16V, Elect.
	C609	EP31X78	1uf, 20%, 50V, Elect.
	C611	EP25X130	.022uf, 10%, 50V, Polyester
	C613	EP18X223	180pf, 5%, 50V, NPO, Cer. Disc
	C614	EP31X11	4.7uf, 20%, 50V, Elect.
	C615	EP31X151	2.7uf, 20%, 160V, Elect.
	C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
	C619	EP31X154	470pf, 20%, 10V, Elect.
	C621	EP31X140	100uf, +50-10%, 50V, Elect.
	C623	EP31X49	1uf, 10%, 16V, Elect.
	C701	EP25X110	3300pf, 10%, 200V, Mylar
	C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
	C705	EP25X148	.027uf, 10%, 100V, Polyester
	C706	EP25X146	.033uf, 20%, 200V, Mylar
+	C900	EP25X147	.1uf, 10%, 125V, Polyester
	C901	EP18X220	1000pf, 20%, 1KV, Cer. Disc
*	C902	EP31X165	680uf, +50-20%, 180V, Elect.
*	C902	EP31X158	330uf, +50-20%, 180V, Elect. +
	C903	EP18X220	1000pf, 20%, 1KV, Cer.
*	C904	EP31X109	100uf, 10%, 160V, Elec
	C905	EP18X220	1000pf, 20%, 1KV, Cer.
*	C906	EP31X156	10uf, +90-20%, 180V, E
	C907	EP18X220	1000pf, 20%, 1KV, Cer.
	C921	EU22X76	1000pf, 20%, 500V, HiK
	C923	ET22X151	470pf, 20%, 1KV, HiK,
	C924	EP18X264	4700pf, 20%, 500V, HiK
	C925	EP31X159	470pf, +50-10%, 25V, E
	C927	EP18X268	150pf, 20%, 1KV, HiK,
	C929	EP18X81	1000pf, 20%, 500V, Cer
	C931	EP31X157	220uf, +50-10%, 100V,
	C933	EP25X89	.047uf, 20%, 300V, Myla
	C935	ET22X151	470pf, 20%, 1KV, HiK,
	C937	EP18X81	1000pf, 20%, 500V, Cer.
	C939	EP31X155	4.7uf, +50-20%, 160V,
	C941	EP18X132	8200pf, 10%, 500V, Cer.
	C943	EP31X45	47uf, 20%, 16V, Elect.
	C945	EU22X212	6800pf, 20%, 500V, Cer.
	C947	EP18X118	.1uf, 10%, 25V, Cer. Di
	C953	EP25X161	1800pf, 10%, 200V, Myla
	C955	EP20X20	.047uf, 10%, 200V, Myla
	C957	EP18X81	1000pf, 20%, 500V, Cer.
	C959	EP18X266	270pf, 20%, 1KV, SHiK,
	C961	EP31X35	10uf, 10%, 35V, Elect.
	C961	EP31X141	220uf, 10%, 10V, Elect
	C965	ET22X151	470pf, 20%, 1KV, Cer. D
	C967	EP31X78	1uf, 20%, 50V, Elect.
	C990	ET22X151	470pf, 20%, 1KV, HiK, C
	C991	EP31X160	3.3uf, +50-10%, 160V, E
	C993	EP31X55	100uf, 20%, 10V, Elect.

+ Indicates part may appear in early production boards

RESISTORS

	REF. NO.	PART NO.	DESCRIPTION
	R101	EP14X187	100 ohm, 5%, 1/8W, Carb
	R102	EP14X180	5.6K ohm, 5%, 1/8W, Car
	R103	ES14X62	1.5K ohm, 5%, 1/8W, Car
	R104	ES14X57	390 ohm, 5%, 1/8W, Carb
	R105	ES14X56	33 ohm, 5%, 1/8W, Carbo
	R107	ES14X59	560 ohm, 5%, 1/8W, Carb
	R108	EP14X133	470K ohm, 5%, 1/8W, Car
	R109	ES14X58	470 ohm, 5%, 1/8W, Carb
	R111	EP14X252	3.9K ohm, 5%, 1/8W, Car
	R112	EP14X303	470 ohm, 5%, 1/8W, Carb
	R113	EP14X284	1K ohm, 5%, 1/8W, Carbo
	R114	EP14X303	470 ohm, 5%, 1/8W, Carb
	R115	EP14X252	3.9K ohm, 5%, 1/8W, Car
	R117	Common	220 ohm, 5%, 1/8W, Carb
	R118	Common	9.1K ohm, 5%, 1/8W, Car
	R119	EP14X119	68K ohm, 5%, 1/8W, Carb
	R121	EP14X125	47K ohm, 5%, 1/8W, Carb
	R122	EP14X182	68 ohm, 5%, 1/8W, Carbo
	R123	EP14X304	2.7K ohm, 5%, 1/8W, Car
	R125	EP14X243	2.2K ohm, 5%, 1/8W, Car
	R126	EP14X184	2.4K ohm, 5%, 1/8W, Car
	R128	EP14X185	120K ohm, 5%, 1/8W, Car
	R129	ES14X59	560 ohm, 5%, 1/8W, Carb
	R130	EP14X304	2.7K ohm, 5%, 1/8W, Car
	R131	Common	5.1K ohm, 5%, 1/8W, Car
	R133	ES14X71	1K ohm, 5%, 1/8W, Carbo
	R134	Common	120 ohm, 5%, 1/4W, Carb
	R135	Common	220 ohm, 5%, 1/4W, Carb
	R136	ES14X70	100 ohm, 5%, 1/8W, Carb
	R180	ES14X71	1K ohm, 5%, 1/8W, Carbo
	R181	EP14X243	2.2K ohm, 5%, 1/8W, Car
	R182	EP14X284	1K ohm, 5%, 1/8W, Carbo
	R183	EP14X284	1K ohm, 5%, 1/8W, Carbo
	R186	Common	300 ohm, 5%, 1/8W, Carb
	R188	EP14X105	100K ohm, 5%, 1/8W, Car
	R190	Common	62K ohm, 5%, 1/8W, Carb
	R191	Common	1.6K ohm, 5%, 1/8W, Car
*	R192	EP14X329	200 ohm, 5%, 1/2W, Flame
	R193	Common	36K ohm, 5%, 1/4W, Carbo
	R194	EP14X103	10K ohm, 5%, 1/8W, Carbo
	R195	EP14X180	5.6K ohm, 5%, 1/8W, Car
	R198	EP14X271	8.2K ohm, 5%, 1/8W, Car
	R200	ES14X69	56 ohm, 5%, 1/8W, Carbon
	R202	EP14X285	20K ohm, 5%, 1/8W, Carbo
	R204	Common	1.2K ohm, 5%, 1/8W, Carb

LMP112 ELECTRONIC TUNING SYSTEM REPLACEMENT PARTS LIST

GENERAL ELECTRIC 25"

LMP112 TUNING SYSTEM

COIL & TRANSFORMER

REF. NO	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X125	CABLE-LMP112 Board To Tuner
	EP41X135	CHANNEL READOUT DISPLAY-Green
RL1	EP8X93	CONNECTOR-5 Pos.
RL7	EP8X68	CONNECTOR-2 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
	EP62X161	KEYBOARD-On/Off, Vol., Channel Sel.
	EP93X413	LMP112 CONTROL BOARD-Complete
	EP62X164	REMOTE CONTROL TRANSMITTER ASM.
	EP93X417	REMOTE CONTROL RECEIVER
	* EP93X415	UHF/VHF TUNER
	* EP41X130	RELAY
	* EP93X394	RELAY CIRCUIT BOARD-Bare

LMP112 CONTROL BOARD ASM

EP93X413

CAPACITORS

REF. NO.	PART NO.	DISCRIPTION
C100	EP31X162	100uf, 20%, 25V, Elect.
C101	EP31X162	100uf, 20%, 25V, Elect.
C102	EP31X163	47uf, 20%, 25V, Elect.
C103	EP31X150	10uf, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	EP18X270	390pf, 5%, 50V, NPO, Cer. Disc
C505	EP18X270	390pf, 5%, 50V, NPO, Cer. Disc
C506	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc
C510	EP31X39	2.2uf, 20%, 25V, Bi-Polar, Elect.
C511	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc
C600	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C601	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C602	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C603	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C604	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C605	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C606	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C607	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C608	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C609	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C610	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C611	EP31X150	10uf, 20%, 50V, Elect.
C612	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C613	EP31X150	10uf, 20%, 50V, Elect.
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022uf, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C621	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C622	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C623	EP31X150	10uf, 20%, 50V, Elect.
C624	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C625	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C626	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C627	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DISCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X61	820 ohm, 5%, 1/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 10%, 1/4W, Carbon
R106	ES14X51	47 ohm, 5%, 1/8W, Carbon
R500	EP14X284	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R504	Common	4.3 meg, 5%, 1/4W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	1.5 meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X303	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X193	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	Common	75K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	4.3K ohm, 5%, 1/8W, Carbon
R649	EP14X193	47K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X193	47K ohm, 5%, 1/8W, Carbon

R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	Common	43K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R687	EP14X104	22K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DISCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DISCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X223	Microcomputer
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DISCRIPTION
Q101	EP15X87	NPN, Silicon
Q502	EP15X89	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X48	PNP, Silicon
Q602	EP15X48	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DISCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X16	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DISCRIPTION
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%

LMP112 REMOTE TRANSMITTER

EP62X164

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared
Y904	ES16X27	Silicon

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-1.5V, AAA
EP47X55	BUTTON-On/Off, Mute/Vol. Up & Down Channel Up & Down/Add/Clear
EP47X57	CAP-Program Switch
EP4X370	CASE-Top, Bottom, Battery Cover, W/Medallion
EP4X371	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE RECEIVER CIRCUIT BOARD

EP93X417

CAPACITORS

REF NO.	PART NO.	DESCRIPTION
C701	EP31X149	10uf, 20%, 35V, Elect.
C702	EP31X149	10uf, 20%, 35V, Elect.
C703	EP31X149	10uf, 20%, 35V, Elect.
C704	EP25X156	3300pf, 5%, 100V, Polypropylene
C705	EP31X163	47uf, 20%, 16V, Elect.
C706	EP25X157	.033uf, 20%, 50V, Polyester
C707	ES22X6	1000pf, 20%, 50V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R701	EP14X284	1K ohm, 5%, 1/8W, Carbon
R702	Common	150K ohm, 5%, 1/8W, Carbon
R703	Common	43 ohm, 5%, 1/8W, Carbon
R704	EP14X303	100K ohm, 5%, 1/8W, Carbon
R705	ES14X70	100 ohm, 5%, 1/8W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC701	EP84X227	Infrared Preamplifier

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y701	EP16X135	Silicon

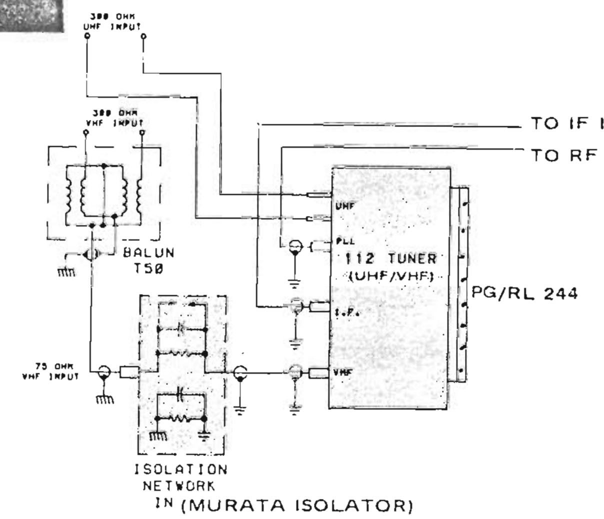
COIL

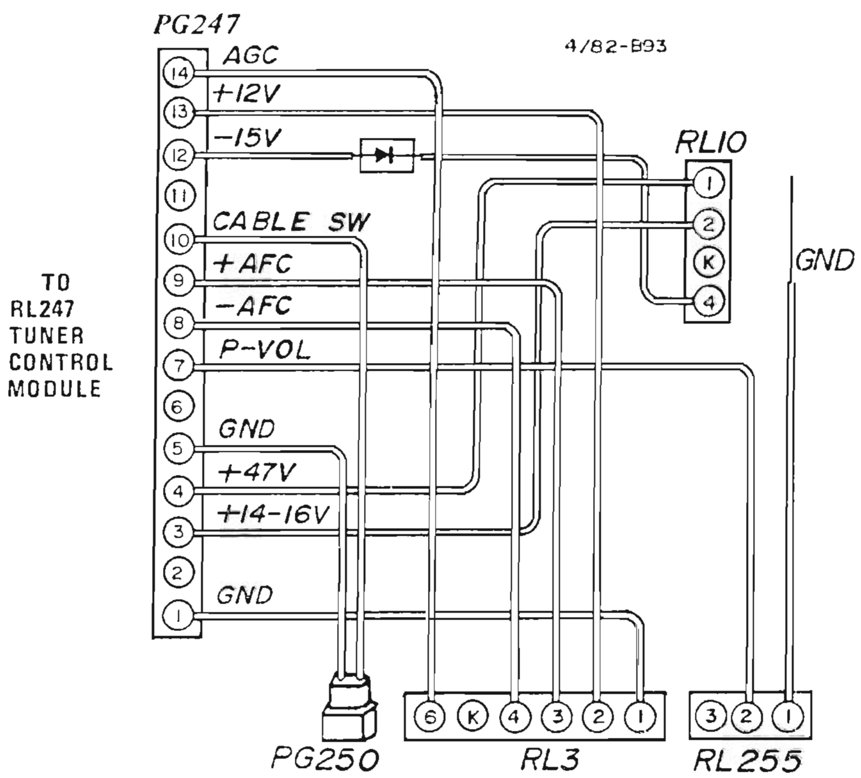
REF. NO	PART NO.	DESCRIPTION
L701	EP36X447	Remote Control

MISCELLANEOUS

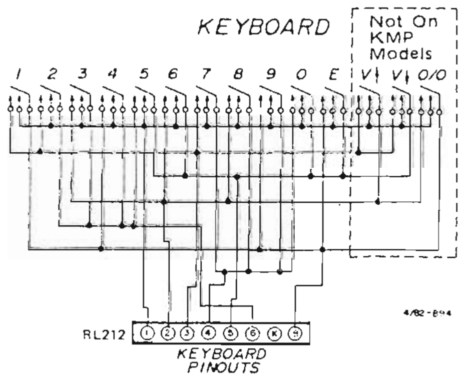
REF. NO.	PART NO.	DESCRIPTION
RL245	EP8X67	CONNECTOR-4 Pos.
	EP2X552	LENS-Remote Control

KMP112 ELECTRONIC TUNING SYSTEM

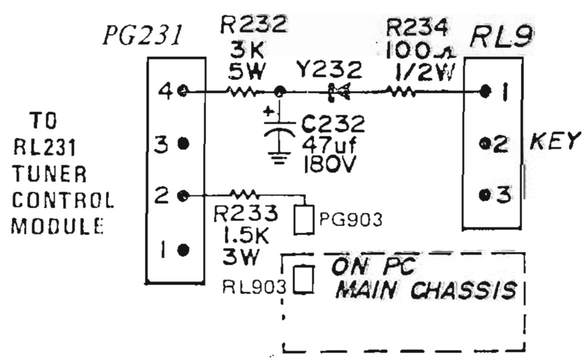




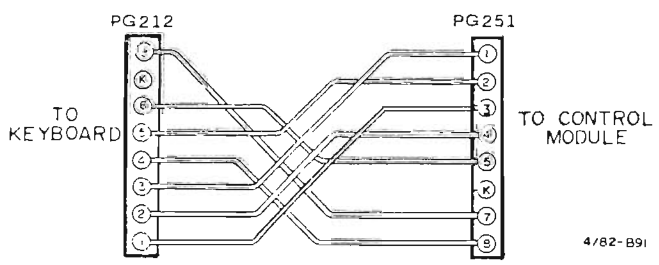
PC CHASSIS INTERFACE CONNECTIONS TO KMP112 TUNER CONTROL MODULE



KEYBOARD SCHEMATIC DIAGRAM

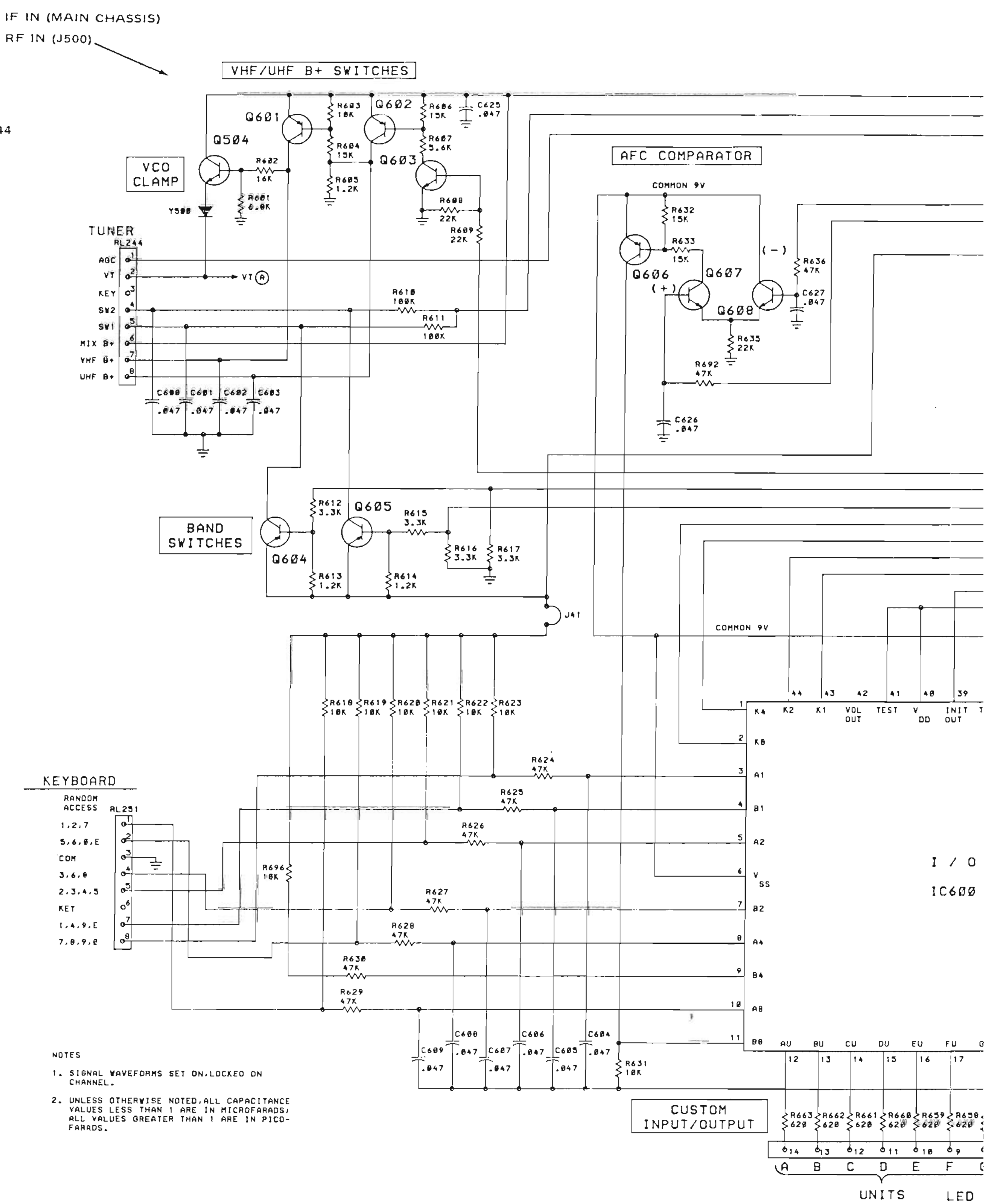


STANDBY POWER SUPPLY (PC CHASSIS)



KEYBOARD HARNESS

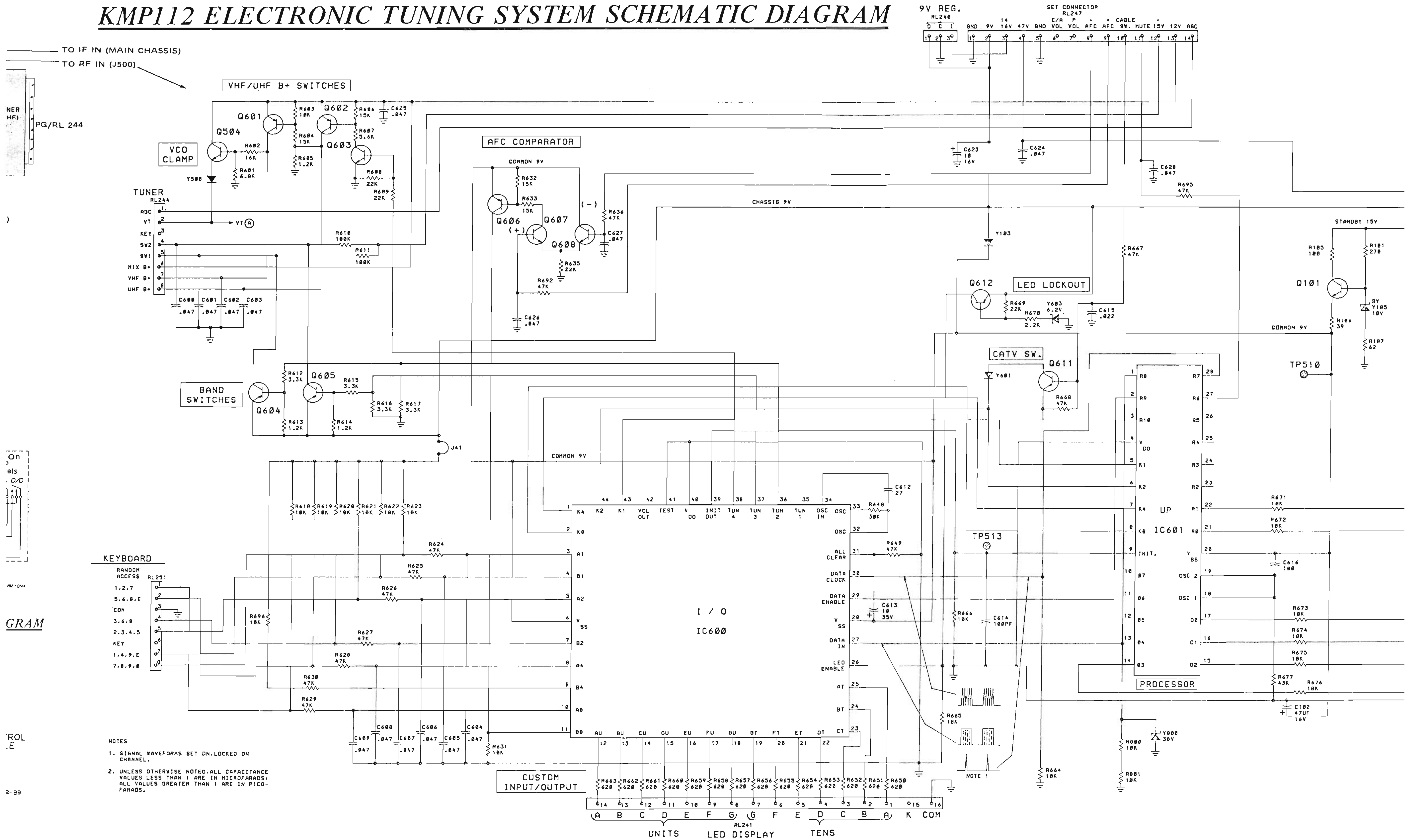
KMP112 ELECTRONIC TUNING SYSTEM SCHEMAT

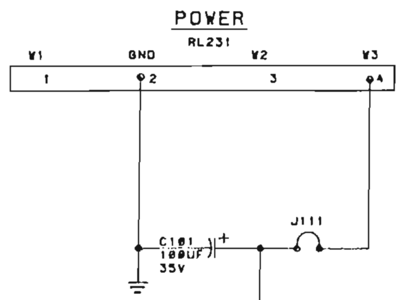


NOTES

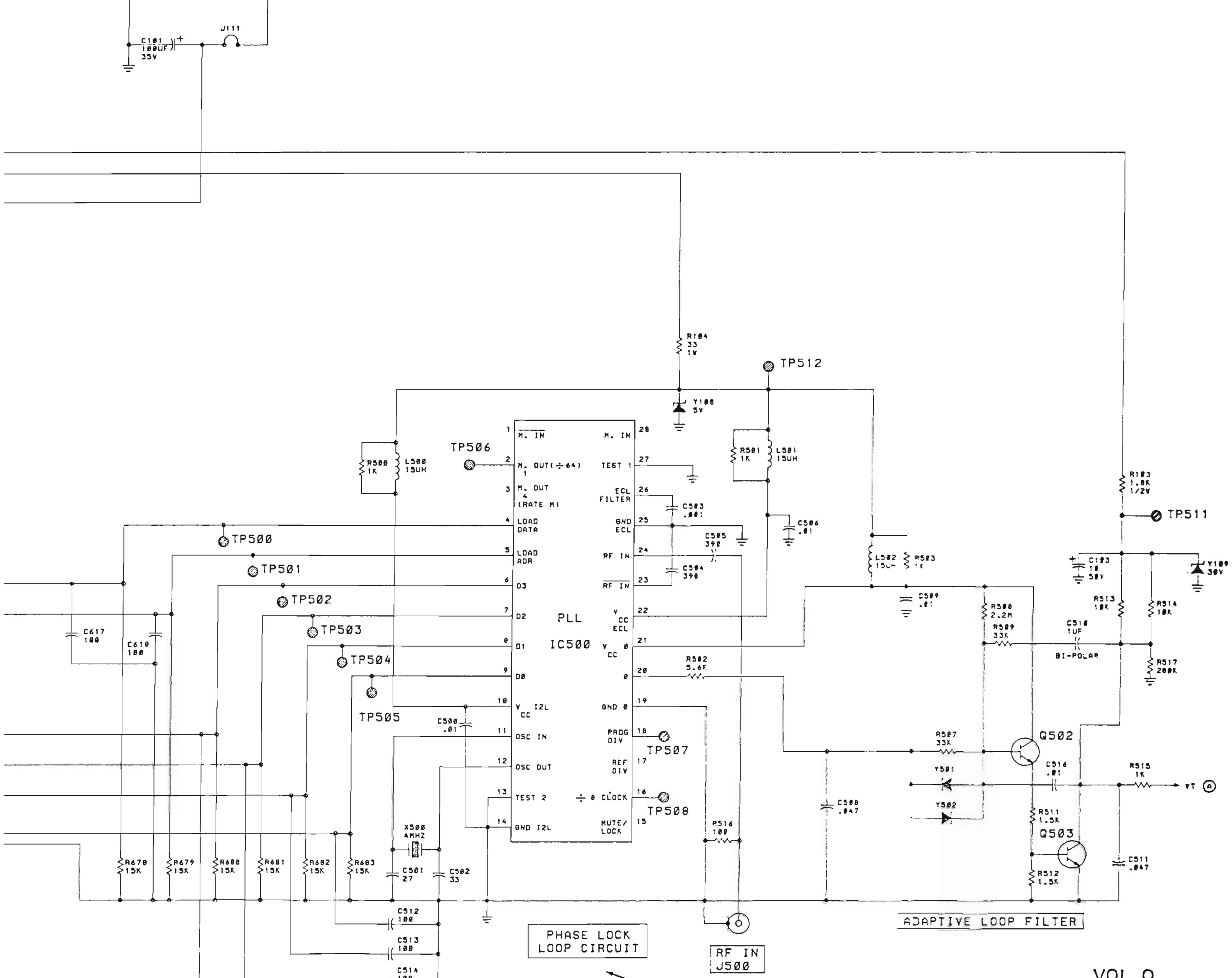
1. SIGNAL WAVEFORMS SET ON,LOCKED ON CHANNEL.
2. UNLESS OTHERWISE NOTED,ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS; ALL VALUES GREATER THAN 1 ARE IN PICO-FARADS.

KMP112 ELECTRONIC TUNING SYSTEM SCHEMATIC DIAGRAM





PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.



KMP112 ELECTRONIC TUNING SYSTEM REPLACEMENT PARTS LIST

GENERAL ELECTRIC 25"

KMP112 TUNING SYSTEM

CAPACITORS

REF NO.	PART NO.	DESCRIPTION
C232	EP31X147	47uf, +50-10%, 180V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COIL

REF. NO	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X125	CABLE-KMP Board To Tuner
	EP41X135	CHANNEL NUMBER DISPLAY READOUT
RL1	EP8X93	CONNECTOR-5 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-4 Pos.
RL212	EP8X92	CONNECTOR-8 Pos.
RL250	EP8X43	CONNECTOR-2 Pins
RL251	EP8X92	CONNECTOR-8 Pos.
	EP93X185	KEYBOARD-Channel Select
	EP93X414	KMP112 CONTROL BOARD-Complete
	★ EP93X415	UHF/VHF TUNER

KMP112 CONTROL BOARD ASM

EP93X414

CAPACITORS

REF. NO.	PART NO.	DISCRIPTION
C101	EP31X162	100uf, 20%, 25V, Elect.
C102	ES31X31	47uf, 20%, 16V, Elect.
C103	EP31X150	10uf, 20%, 50V, Elect.
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	EP18X270	390pf, 5%, 50V, NPO, Cer. Disc
C505	EP18X270	390pf, 5%, 50V, NPO, Cer. Disc
C506	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1uf, 20%, 25V, Bi-Polar, Elect.
C511	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc
C600	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C601	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C602	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C603	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C604	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C605	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C606	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C607	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C608	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C609	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C612	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C613	EP31X149	10uf, 20%, 35V, Elect.
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022uf, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C624	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C625	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C626	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C627	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C628	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DISCRIPTION
R101	Common	270 ohm, 5%, 1/8W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	ES14X70	100 ohm, 5%, 1/8W, Carbon
R106	ES14X51	47 ohm, 5%, 1/8W, Carbon
R107	Common	62 ohm, 5%, 1/8W, Carbon
R500	EP14X284	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R504	Common	4.3 meg, 5%, 1/4W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	2.2 meg ohm, 10%, 1/4W, Carbo
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	EP14X284	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X303	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X193	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R648	Common	4.3K ohm, 5%, 1/8W, Carbon

R649	EP14X193	47K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X193	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	Common	43K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R687	EP14X288	18K ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R694	EP14X193	47K ohm, 5%, 1/8W, Carbon
R696	EP14X284	10K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DISCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X226	Microcomputer

TRANSISTORS

REF. NO.	PART NO.	DISCRIPTION
Q101	EP15X87	NPN, Silicon
Q502	EP15X89	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X48	PNP, Silicon
Q602	EP15X48	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DISCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DISCRIPTION
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%

25PC CHASSIS

General: In order to troubleshoot the KMP 112 Ch. electronic tuning system more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable.

POWER SUPPLIES

1. Do not unplug, but do check all voltages at RL/PG247.
2. Check RL231, pin 4 for +15V Standby Supply.
3. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

TROUBLESHOOTING ORDER

In order of probability after checking power supplies, wires, cable switch, check:

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC500 (PLL CHIP)

CATEGORIZED SYMTOMS

- Dark Raster (LED Readout Display OK)
  Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
  Check Bandswitch Transistors
- No Channel, No Keyboard Operation
  Check Microprocessor (IC601)
- No Last Channel Memory when set is switched OFF and back ON.
  Check Microprocessor (IC601)
- Readout Display OK, but Channels Off-Frequency
  Check Bandswitch voltage, is OK, check IC500 (PLL Chip).

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry.

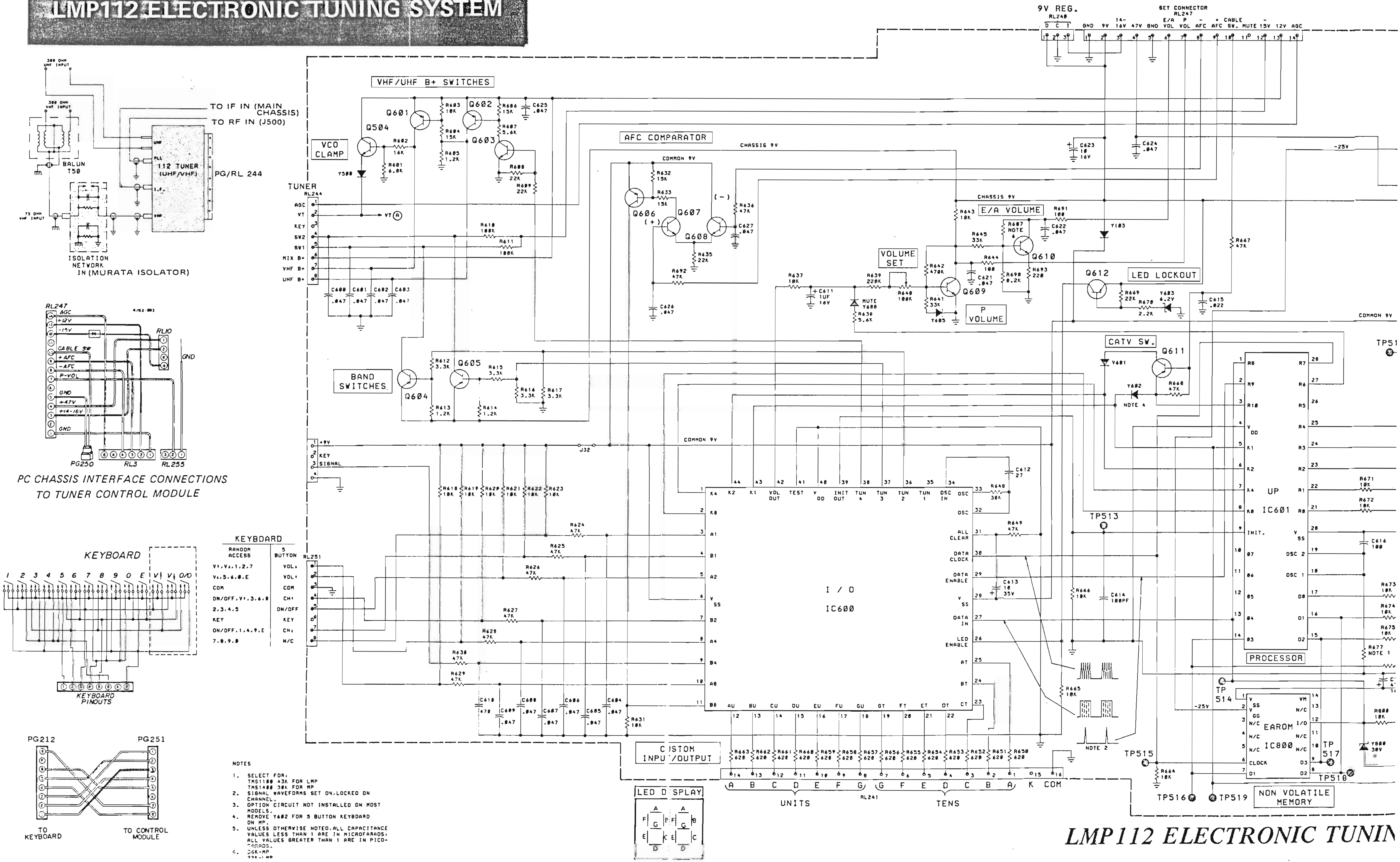
Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED TO KMP ELECTRONIC TUNING TROUBLESHOOTING FOR POSSIBLE SOLUTION TO THE PROBLEM.

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH.1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

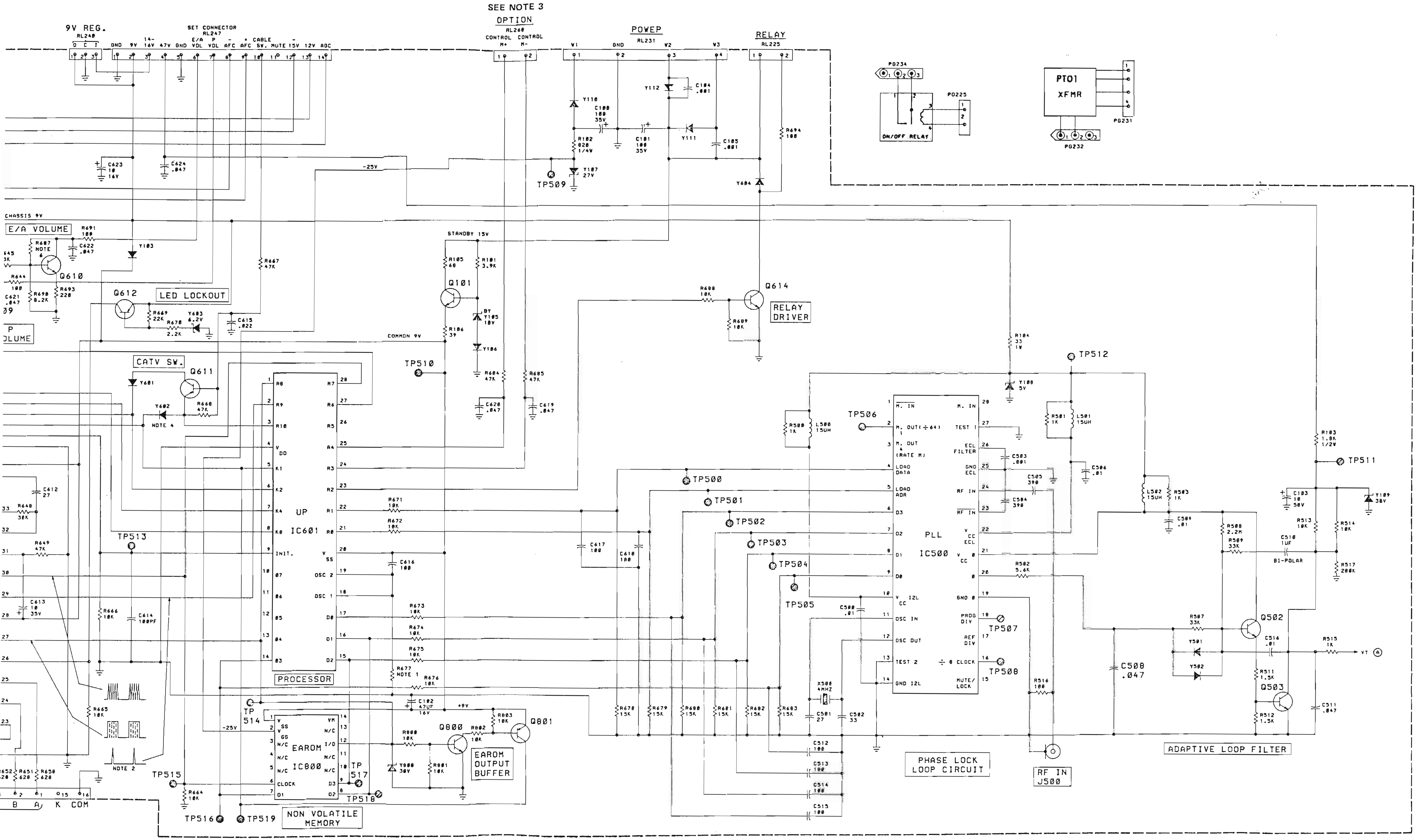
LMP112 ELECTRONIC TUNING SYSTEM



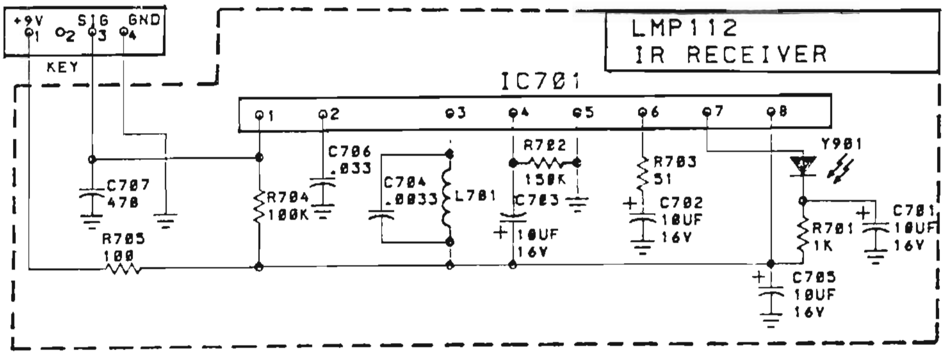
NOTES

1. SELECT FOR;
   TMS1100 43K FOR LMP
   TMS1400 30K FOR MP
2. SIGNAL WAVEFORMS SET ON,LOCKED ON CHANNEL.
3. OPTION CIRCUIT NOT INSTALLED ON MOST MODELS.
4. REMOVE Y402 FOR 5 BUTTON KEYBOARD ON MP.
5. UNLESS OTHERWISE NOTED,ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS; ALL VALUES GREATER THAN 1 ARE IN PICOFARADS.
6. 36K-MP
   22K-LMP

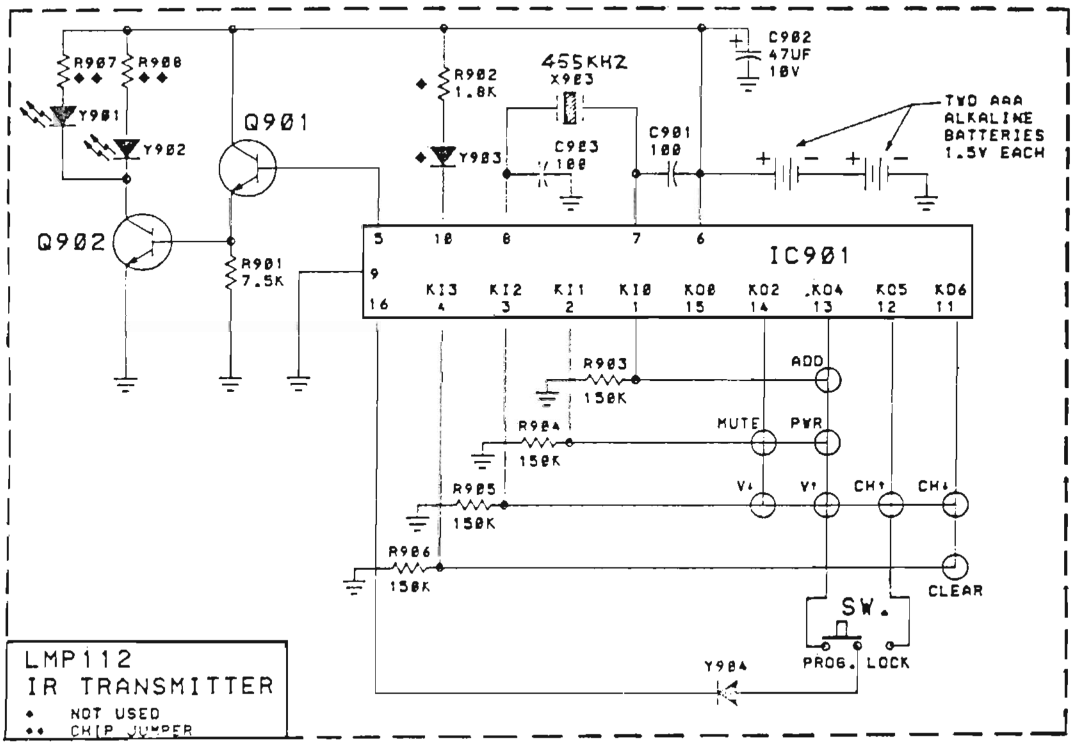
LMP112 ELECTRONIC TUNIN



LMP112 ELECTRONIC TUNING SYSTEM SCHEMATIC DIAGRAM



LMP112 REMOTE RECEIVER SCHEMATIC DIAGRAM

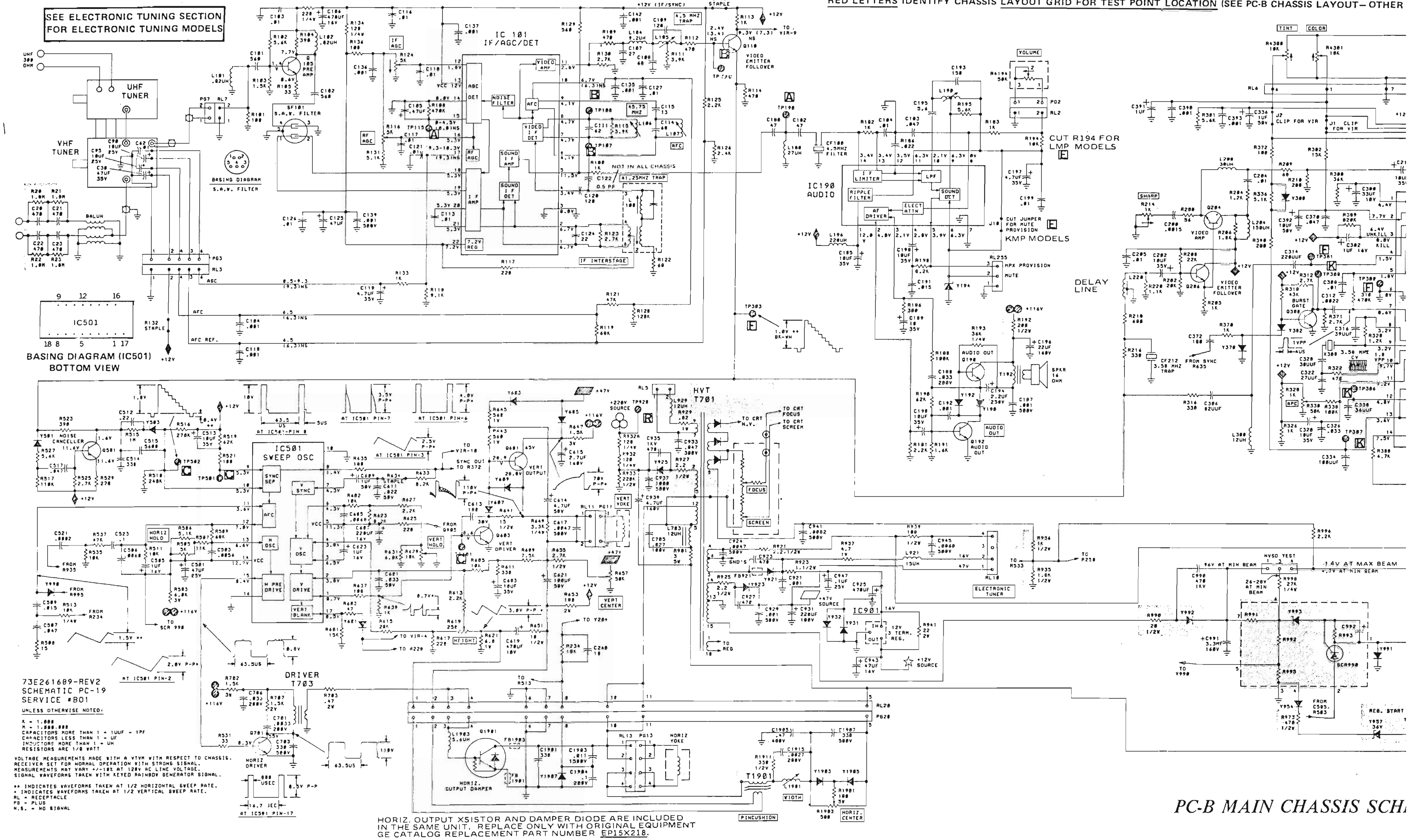


LMP112 REMOTE TRANSMITTER SCHEMATIC DIAGRAM

PC-B CHASSIS

SEE ELECTRONIC TUNING SECTION FOR ELECTRONIC TUNING MODELS

RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR TEST POINT LOCATION (SEE PC-B CHASSIS LAYOUT– OTHER



73E261689-REV2
SCHEMATIC PC-19
SERVICE #B01

UNLESS OTHERWISE NOTED:

K = 1,000
M = 1,000,000
CAPACITORS MORE THAN 1 = 1UUF = 1PF
CAPACITORS LESS THAN 1 = UF
INDUCTORS MORE THAN 1 = UH
RESISTORS ARE 1/8 WATT

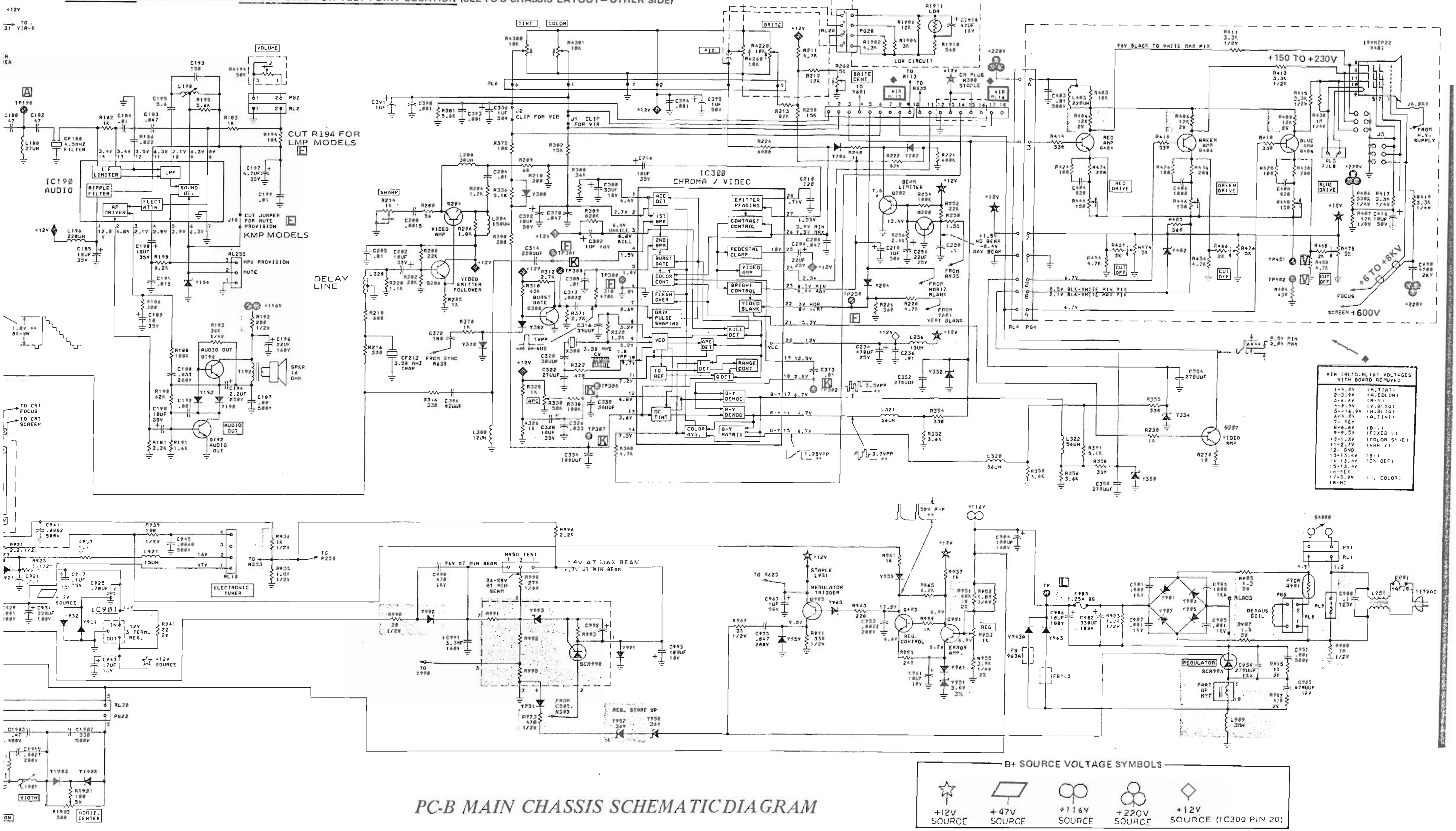
VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS.
RECEIVER SET FOR NORMAL OPERATION WITH STRONG SIGNAL.
MEASUREMENTS MAY VARY +/-10% AT 120V AC LINE VOLTAGE.
SIGNAL WAVEFORMS TAKEN WITH KEYED RAINBOW GENERATOR SIGNAL.

** INDICATES WAVEFORMS TAKEN AT 1/2 HORIZONTAL SWEEP RATE.
* INDICATES WAVEFORMS TAKEN AT 1/2 VERTICAL SWEEP RATE.
RL = RECEPTACLE
PG = PLUG
N.S. = NO SIGNAL

HORIZ. OUTPUT XSISTOR AND DAMPER DIODE ARE INCLUDED IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT GE CATALOG REPLACEMENT PART NUMBER EP15X218.

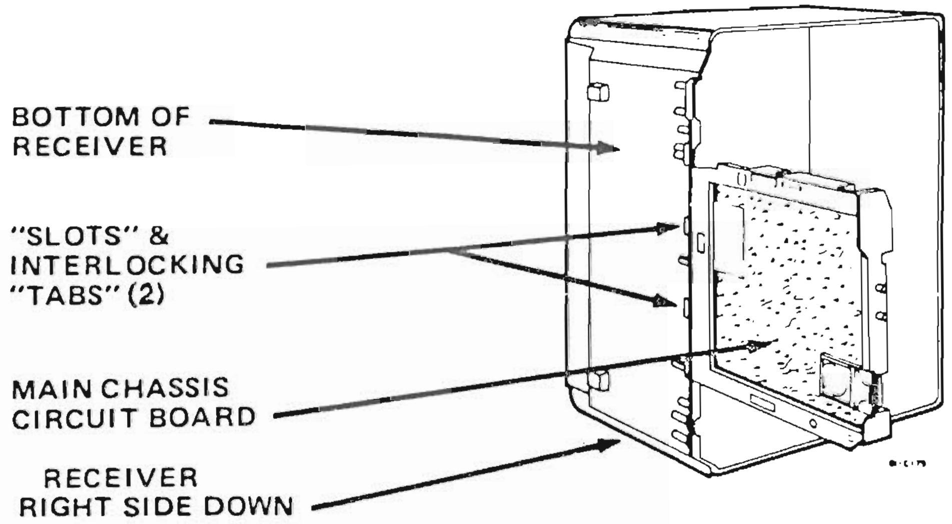
PC-B MAIN CHASSIS SCH

RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR TEST POINT LOCATION (SEE PC-B CHASSIS LAYOUT– OTHER SIDE)



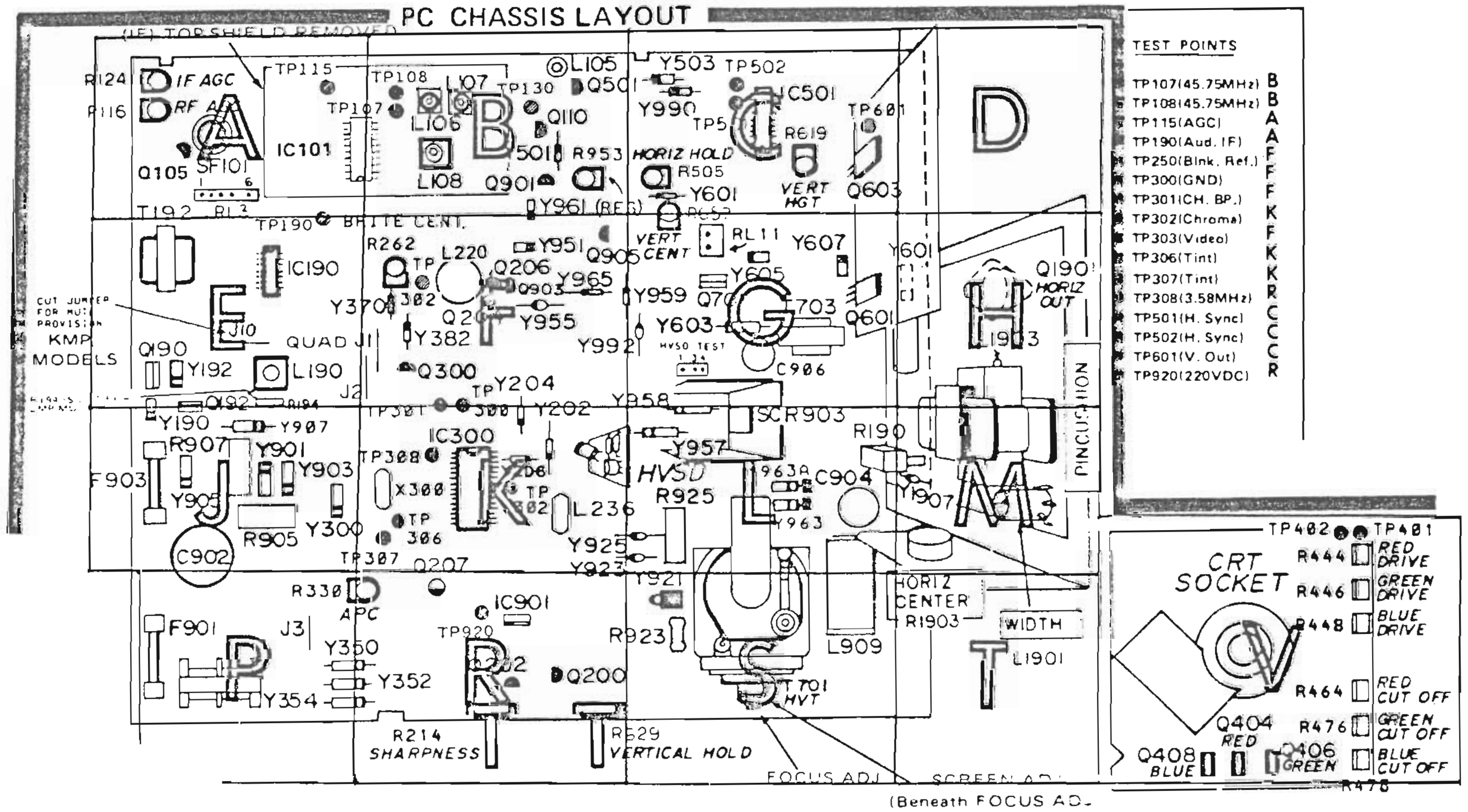
PC-B MAIN CHASSIS SCHEMATIC DIAGRAM

CHASSIS SERVICE POSITION



THE CIRCUIT BOARD IS HELD IN PLACE BY TWO PLASTIC "QUICK RELEASE" LOCKING CLIPS LOCATED AT THE BOTTOM REAR OF THE CABINET. TO RELEASE THE CIRCUIT BOARD PRESS DOWN ON THE RETAINERS AND SLIDE THE BOARD OUT OF THE CABINET.

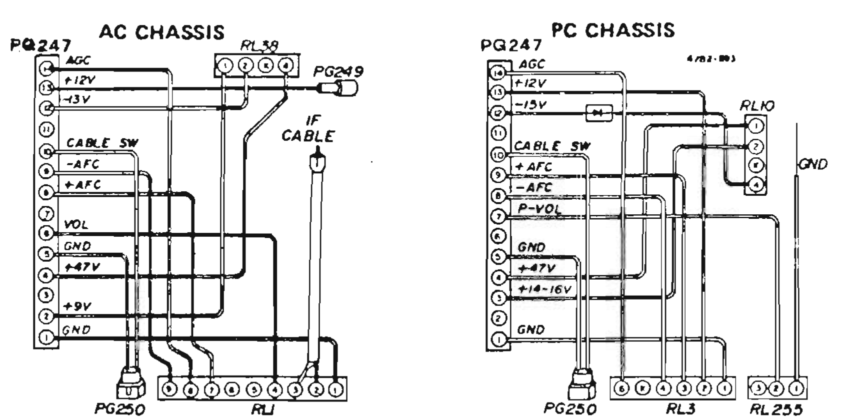
PC CHASSIS LAYOUT



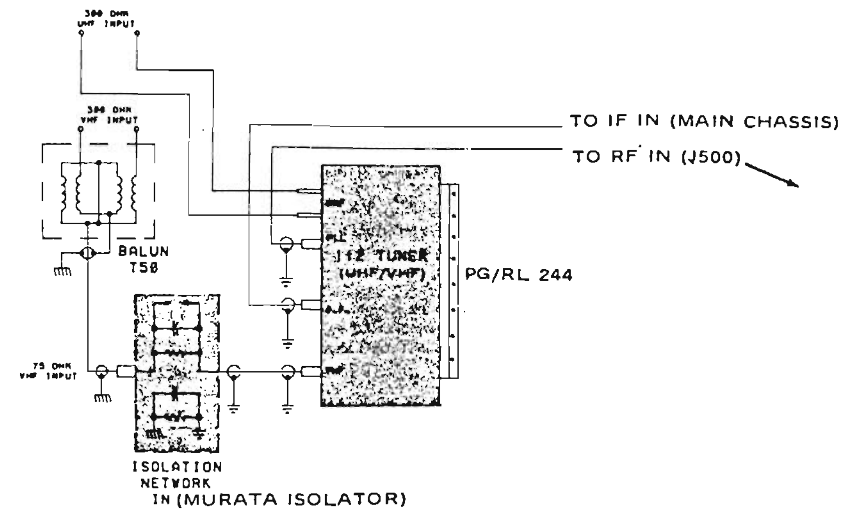
TEST POINTS	
TP107(45.75MHz)	B
TP108(45.75MHz)	B
TP115(AGC)	A
TP190(Aud. IF)	A
TP250(Blnk. Ref.)	F
TP300(GND)	F
TP301(CH. BP.)	F
TP302(Chroma)	K
TP303(Video)	F
TP306(Tint)	K
TP307(Tint)	K
TP308(3.58MHz)	R
TP501(H. Sync)	C
TP502(H. Sync)	C
TP601(V. Out)	C
TP920(220VDC)	R

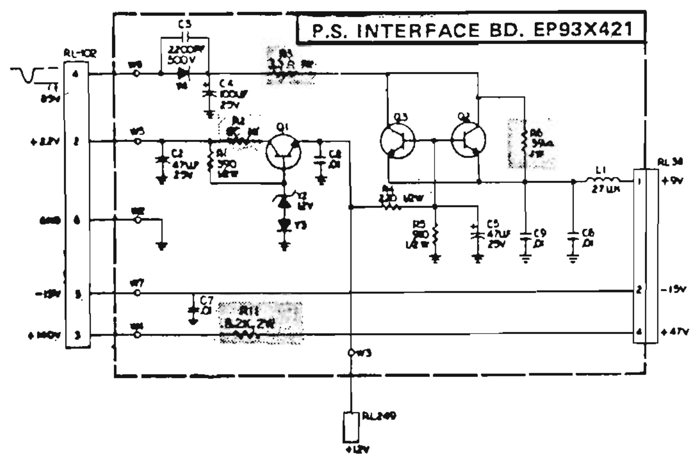
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.

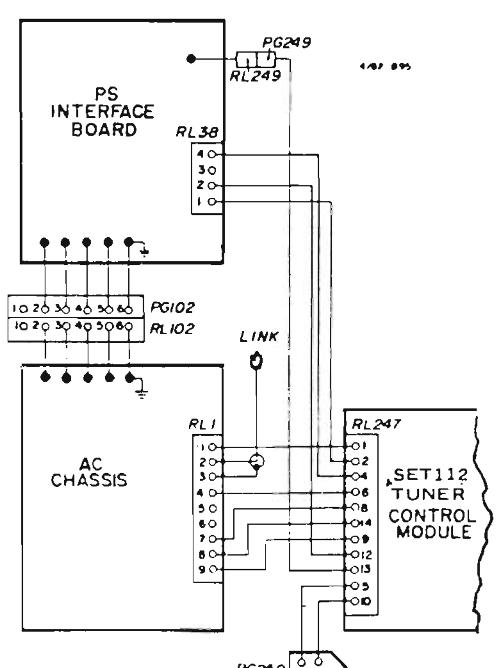
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.



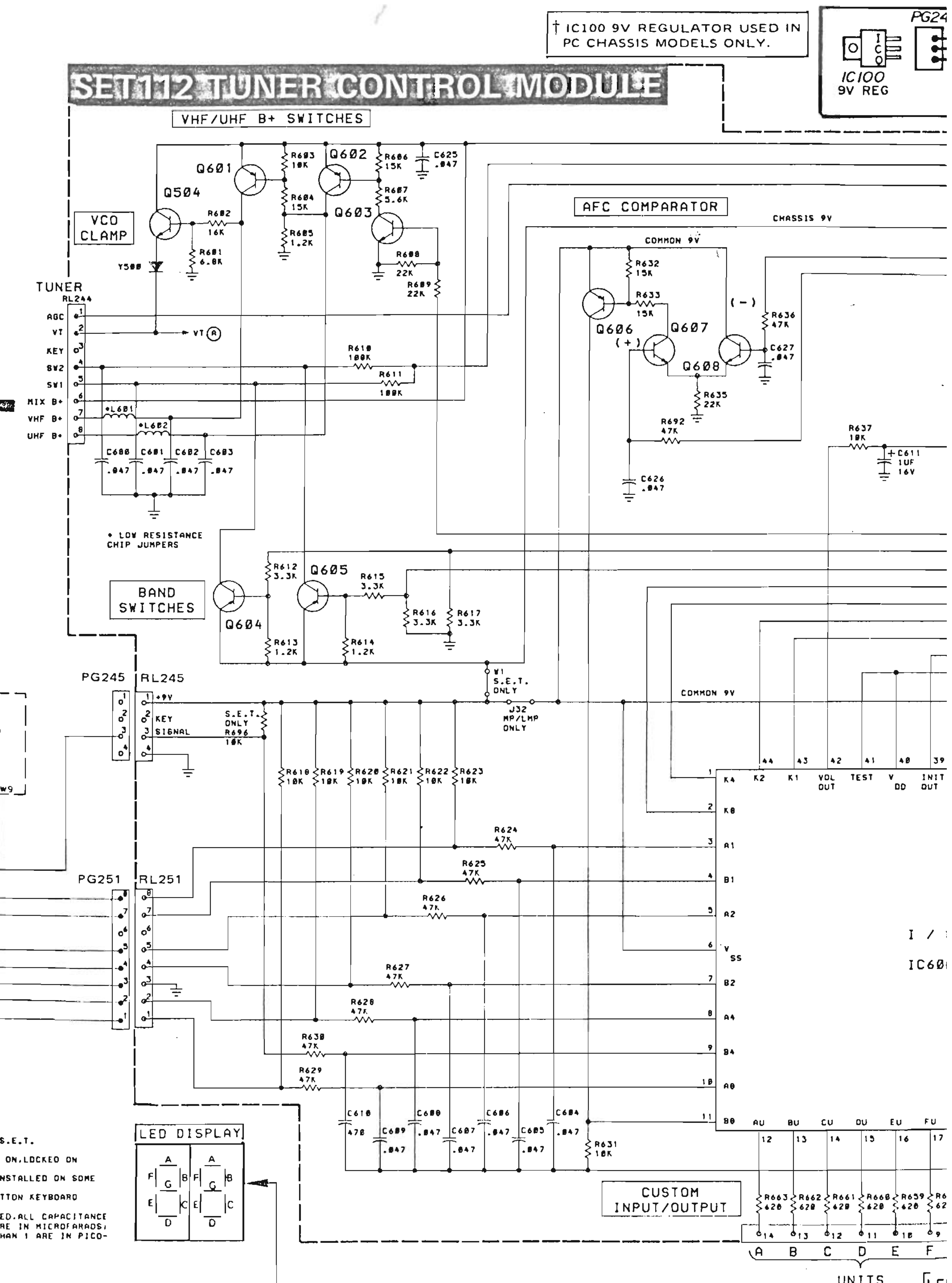
AC, AND PC CHASSIS INTERFACE CONNECTIONS TO SET112 TUNER CONTROL MODULE

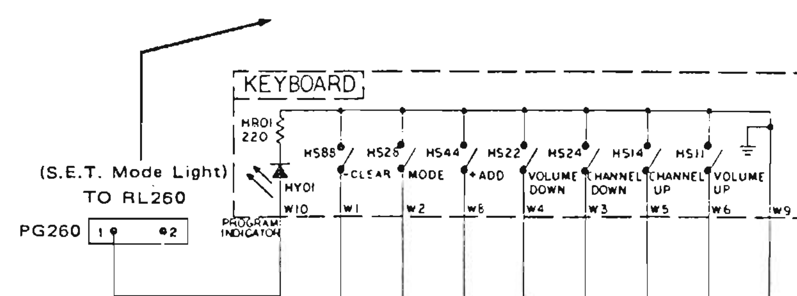






AC CHASSIS PWR. SUPPLY INTERFACE TO SET112 TUNER CONTROL MODULE

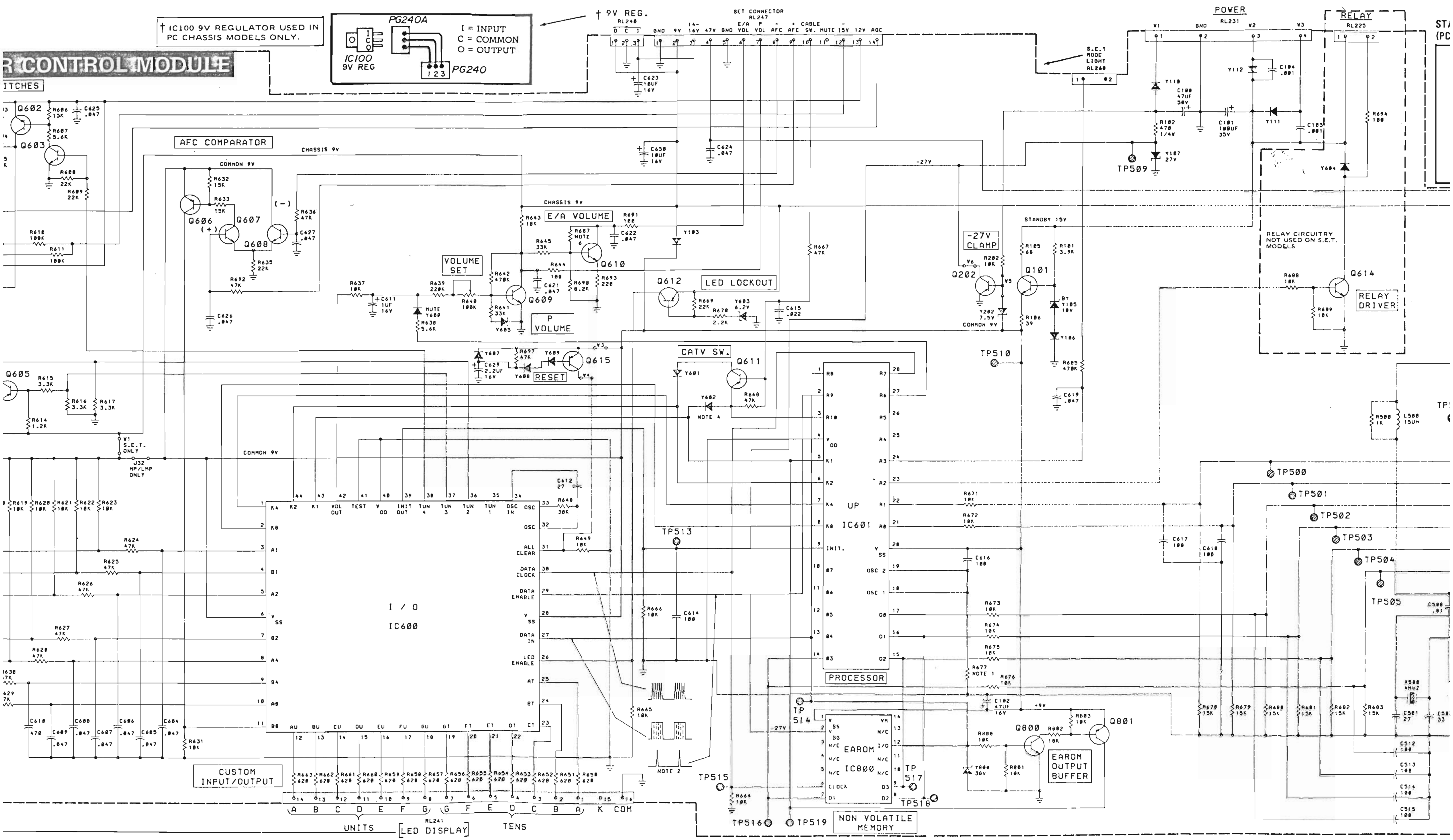




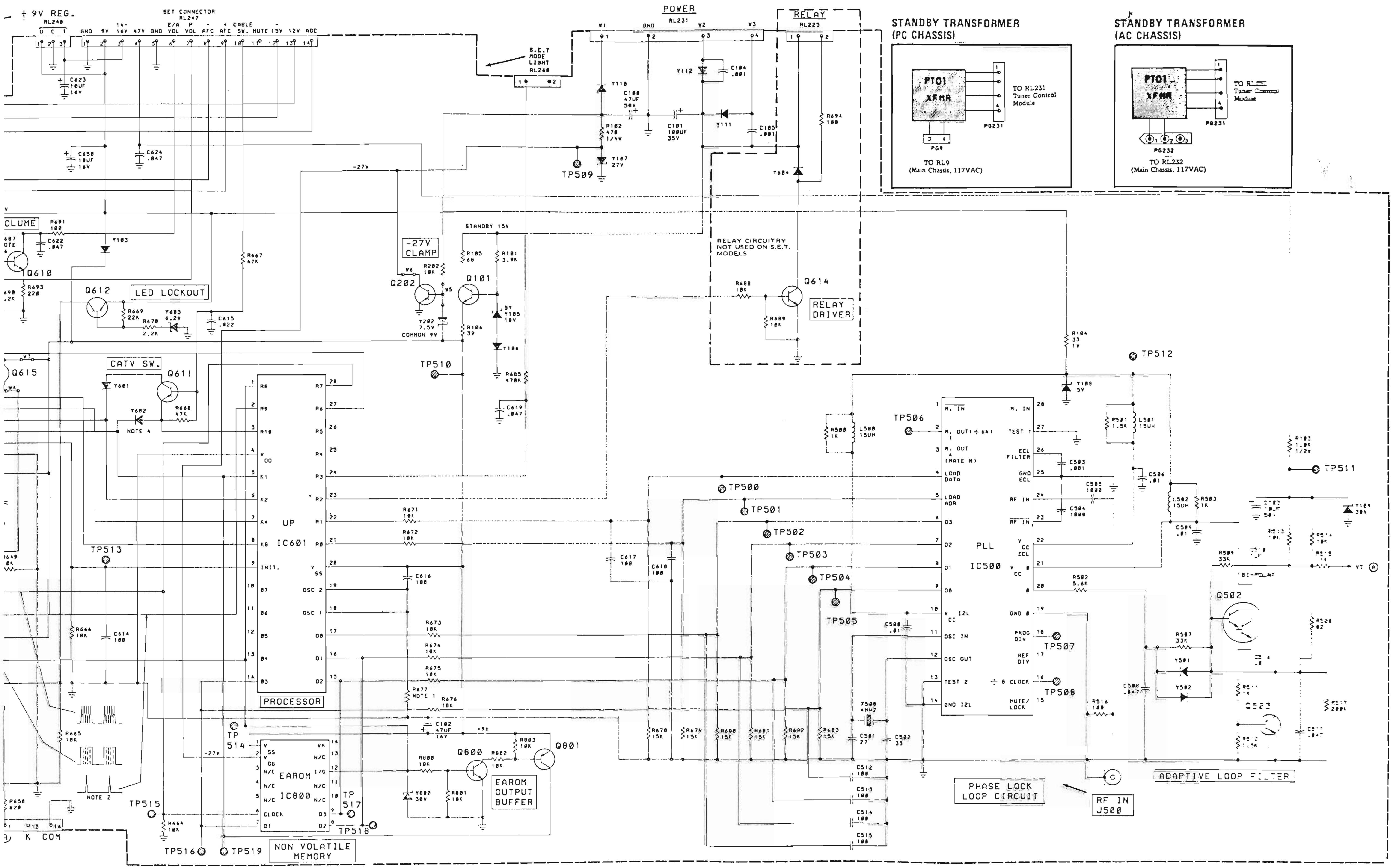
† IC100 9V REGULATOR USED IN PC CHASSIS MODELS ONLY.

NOTES

1. SELECT FOR:
   TMS1100 43K FOR LMP/S.E.T.
   TMS1400 30K FOR MP
2. SIGNAL WAVEFORMS SET ON,LOCKED ON CHANNEL.
3. OPTION CIRCUIT NOT INSTALLED ON SOME MODELS.
4. REMOVE Y602 FOR 5 BUTTON KEYBOARD ON MP.
5. UNLESS OTHERWISE NOTED,ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS; ALL VALUES GREATER THAN 1 ARE IN PICO-FARADS.
6. 36K-MP
   22K-LMP/S.E.T.



† IC100 9V REGULATOR USED IN PC CHASSIS MODELS ONLY.
PG240A
IC100 9V REG
PG240
I = INPUT
C = COMMON
O = OUTPUT
† 9V REG.
SET CONNECTOR
POWER
RELAY
R CONTROL MODULE
ITCHES
AFC COMPARATOR
CHASSIS 9V
COMMON 9V
E/A VOLUME
VOLUME SET
P VOLUME
LED LOCKOUT
-27V CLAMP
STANDBY 15V
RELAY CIRCUITRY NOT USED ON S.E.T. MODELS
RELAY DRIVER
CATV SW.
RESET
S.E.T. MODE LIGHT
S.E.T. ONLY
I / O IC600
UP IC601
PROCESSOR
EAROM IC800
NON VOLATILE MEMORY
EAROM OUTPUT BUFFER
CUSTOM INPUT/OUTPUT
UNITS
TENS
LED DISPLAY
TP500
TP501
TP502
TP503
TP504
TP505
TP509
TP510
TP513
TP514
TP515
TP516
TP517
TP518
TP519


† 9V REG.
SET CONNECTOR
POWER
RELAY
S.E.T MODE LIGHT
STANDBY TRANSFORMER
(PC CHASSIS)
PT01 XFMR
TO RL231 Tuner Control Module
TO RL9
(Main Chassis, 117VAC)
STANDBY TRANSFORMER
(AC CHASSIS)
TO RL232
(Main Chassis, 117VAC)
TP509
OLUME
Q610
Q612
LED LOCKOUT
-27V CLAMP
Q202
Q101
STANDBY 15V
COMMON 9V
RELAY CIRCUITRY NOT USED ON S.E.T. MODELS
Q614
RELAY DRIVER
TP510
TP512
Q615
CATV SW.
Q611
UP IC601
PROCESSOR
TP513
TP506
TP500
TP501
TP502
TP503
TP504
TP505
PLL IC500
TP507
TP508
TP511
Q502
Q523
TP 514
EAROM IC800
TP 517
TP518
Q800
Q801
EAROM OUTPUT BUFFER
TP515
TP516
TP519
NON VOLATILE MEMORY
PHASE LOCK LOOP CIRCUIT
RF IN J500
ADAPTIVE LOOP FILTER
K COM

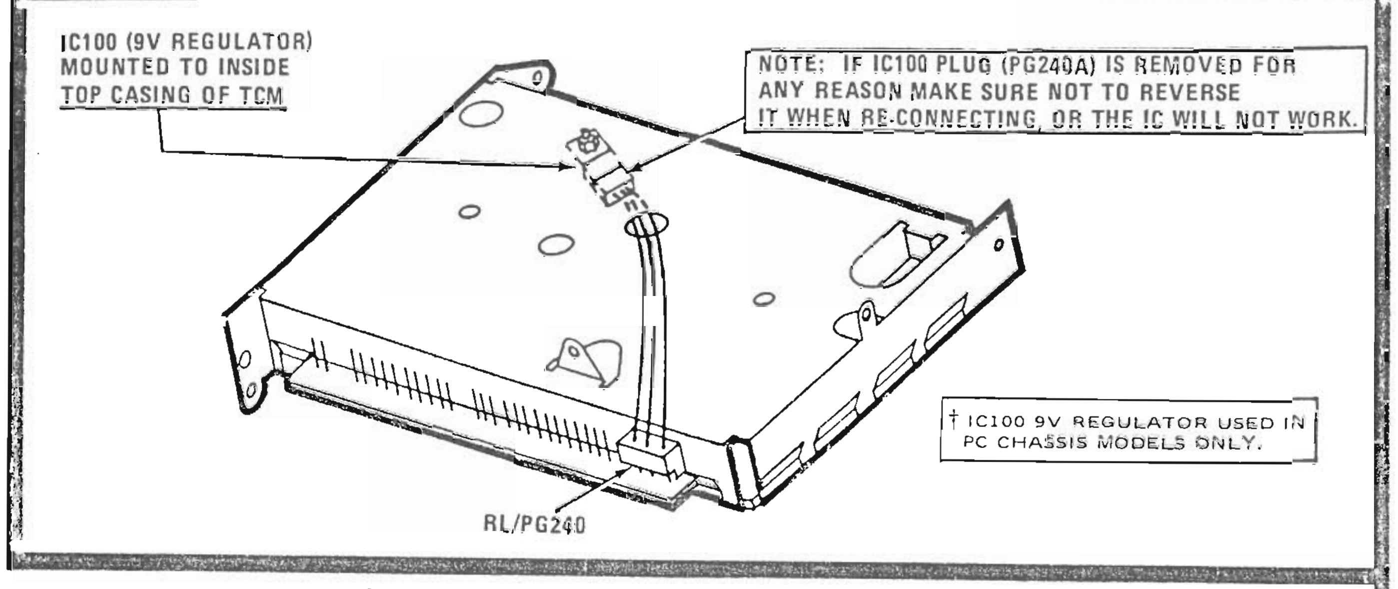
SET112 ELECTRONIC TUNING SYSTEM

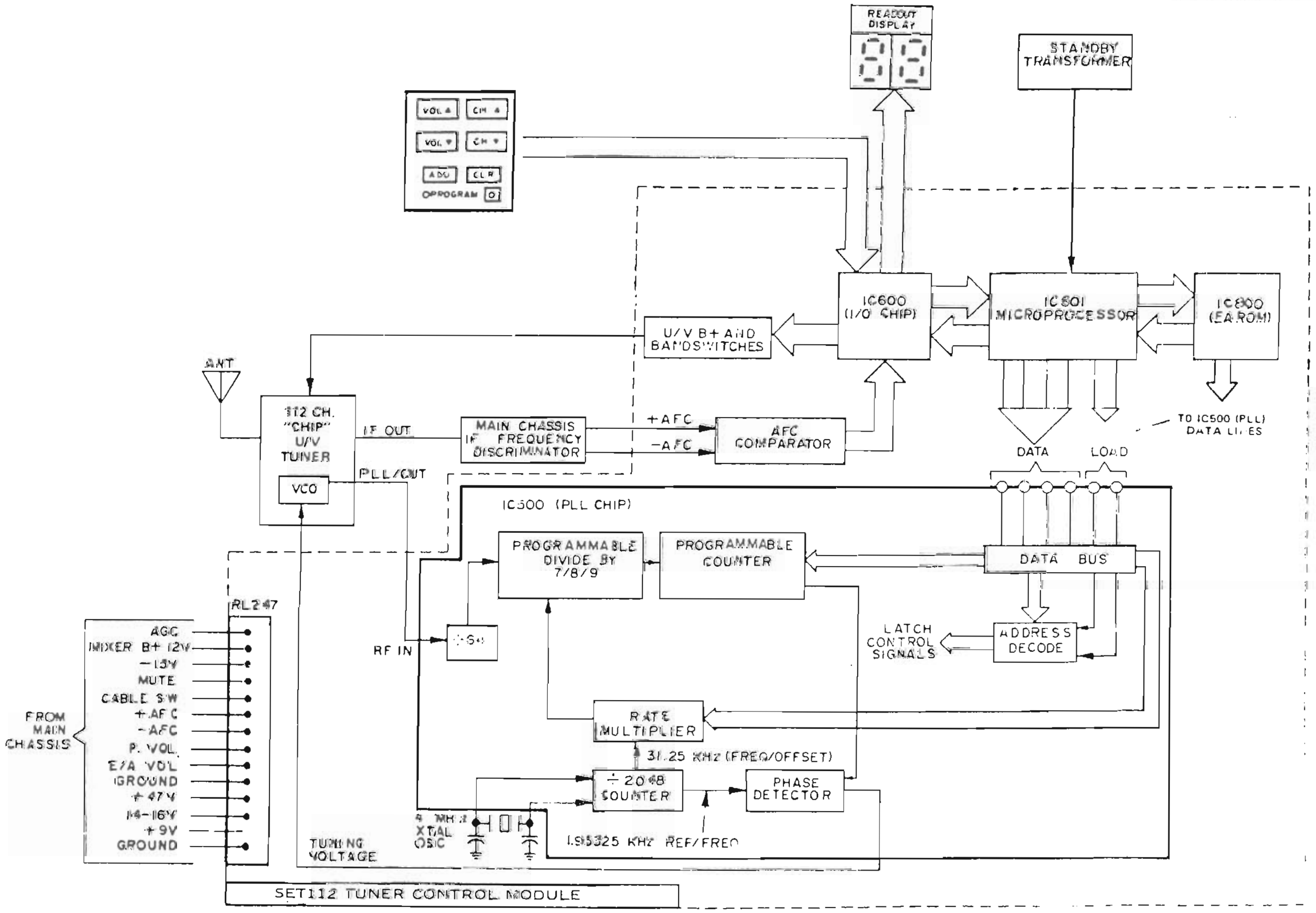
MINI-MANUAL

SERVICE INFORMATION
FOR TECHNICIAN
USE ONLY
ACCESSIBLE FROM INSIDE
TV SET ONLY

73E261881-2

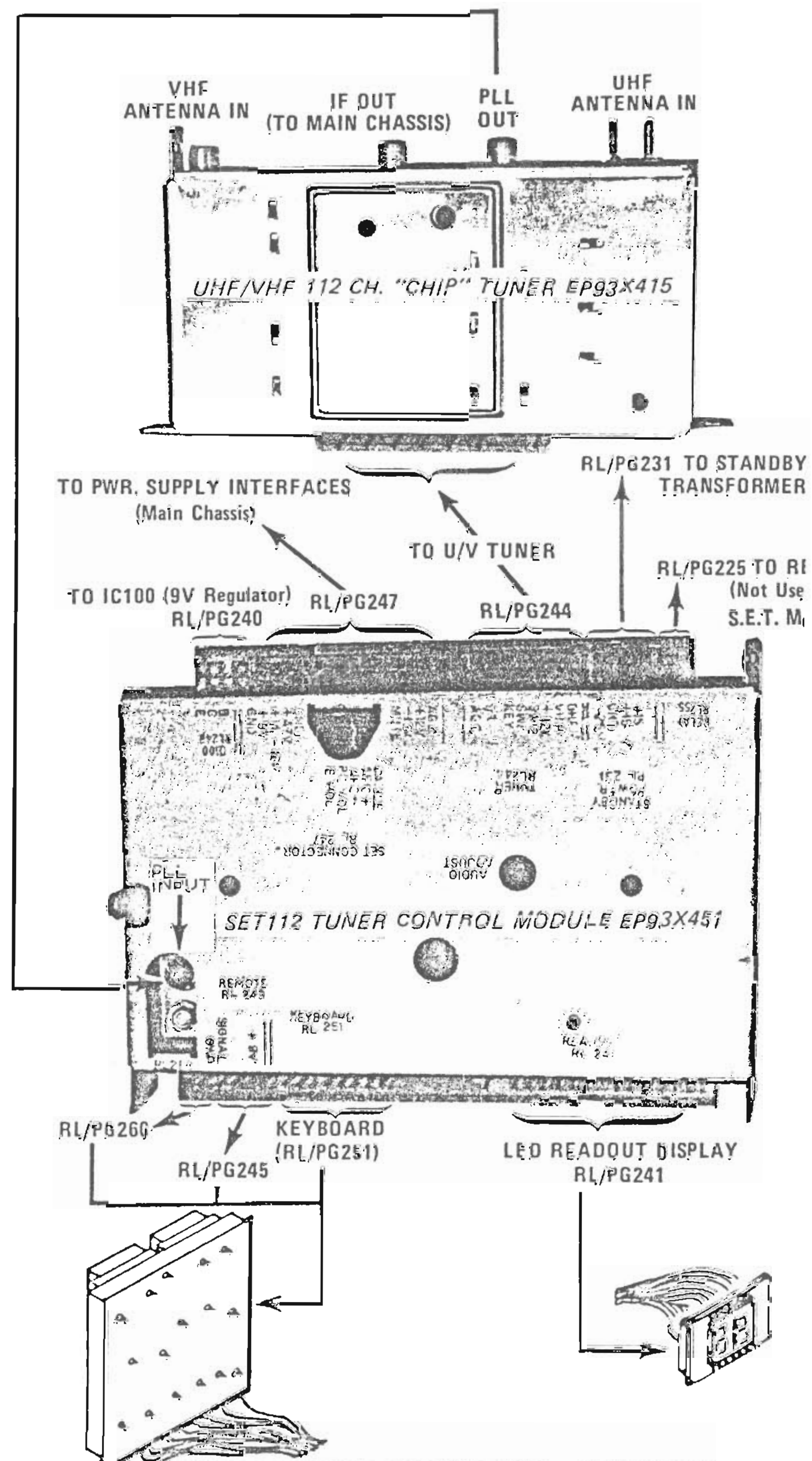
SET112 TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)





SET112 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM

SET112 SYSTEM COMPONENT ASSEMBLIES



SET112 SYSTEM COMPONENT ASSEMBLIES

SET112 SYSTEM TROUBLESHOOTING INFORMATION

General: In order to troubleshoot the SET 112 Ch. electronic tuning system more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247.
2. Check RL231, Pin 1 for 30 to 38VAC (supply for B minus (−) 27V supply to Non-Volatile Memory, IC800, EAROM).
3. Check for 30 to 38VAC across Pins 3 and 4 of RL231 (supply for Standby Supply Voltage).
4. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, check:

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC800 (EAROM)
6. IC500 (PLL CHIP)

Categorized Symptoms

- Dark Raster (LED Readout Display OK)
  Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
  Check Bandswitch Transistors
- No Channel, No Keyboard Operation
  Check Microprocessor (IC601)
- No Last Channel or Favorite Channel Memory during power failure.
  Check IC800 (EAROM)
- Readout Display OK, but Channels Off-Frequency
  Check Bandswitch voltage, if OK, check IC500 (PLL Chip).

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microproessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry. be at fault.

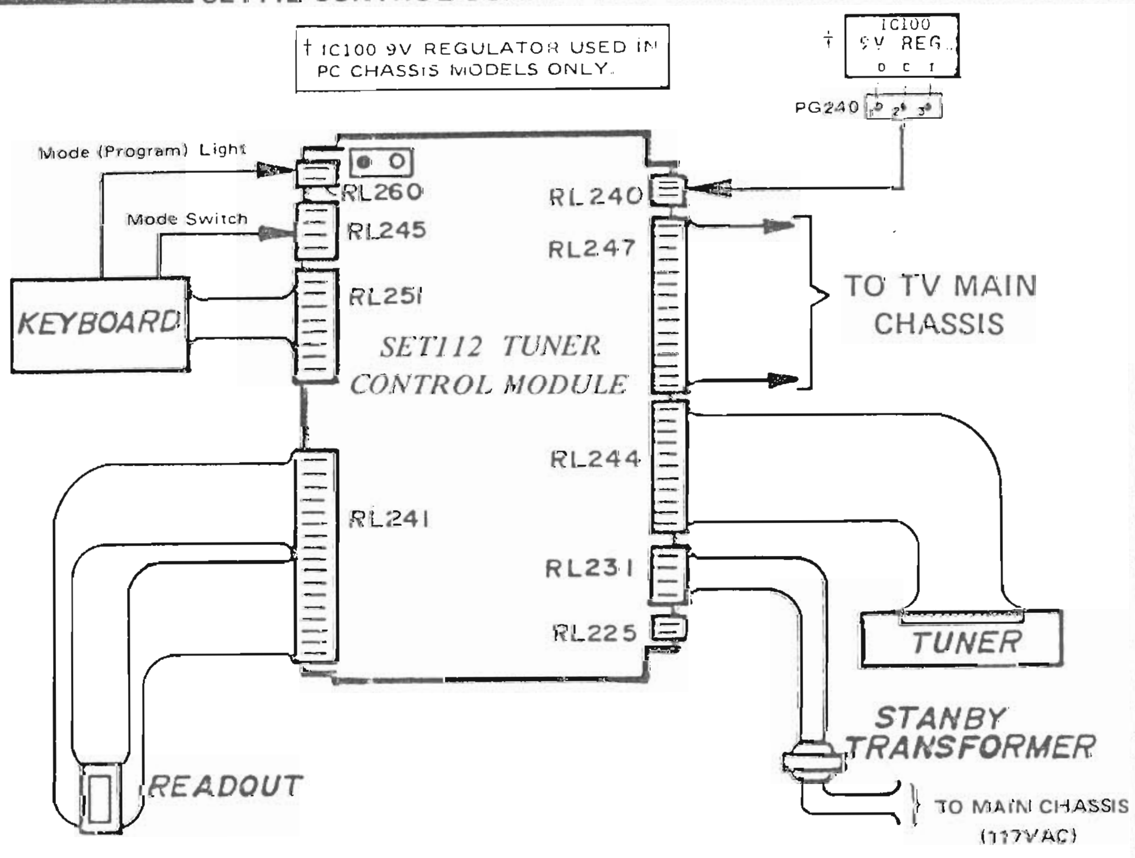
Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED TO SET ELECTRONIC TUNING TROUBLESHOOTING FOR POSSIBLE SOLUTION TO THE PROBLEM

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH.1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

SET112 CONTROL BOARD PLUG LOCATIONS



SET112 CONTROL BOARD PLUG LOCATIONS

POWER SUPPLY INTERFACE BOARD (AC CHASSIS ONLY) EP93X421

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1	ES14X57	390 ohm, 5%, 1/2W, Carbon
★ R2	EP14X167	150 ohm, 5%, 1W, Metal Oxide
★ R3	EP14X151	3.3 ohm, 5%, 1W, Metal Oxide
R4	EP14X129	220 ohm, 5%, 1/2W, Carbon
R5	EP14X295	910 ohm, 5%, 1/2W, Carbon
★ R6	EP14X245	39 ohm, 5%, 1W, Metal Oxide
★ R11	EP14X86	8.2K ohm, 5%, 2W, Metal Oxide

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q1	ES15X125	NPN, Silicon
Q2	ES15X125	NPN, Silicon
Q3	ES15X125	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y2	EP16X36	Zener
Y3	EP57X4	Rectifier, Silicon
Y4	EP57X5	Rectifier, Silicon

COIL

REF. NO	PART NO.	DESCRIPTION
L1	EP36X144	CHOKE-27uh, 5%

SET112 TUNING SYSTEM REPLACEMENT PARTS LIST

SET112 TUNING SYSTEM (PC CHASSIS)

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
R29	EP14X326	VARISTOR-Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
† IC100	EP84X230	3 Terminal 9V Regulator

COIL & TRANSFORMER

REF. NO	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
★ PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP92X110	BRACKET-Upper Controls Mtg, Plastic
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-SET112 Board To Tuner
	EP41X135	CHANNEL READOUT DISPLAY-Green
RL1	EP8X93	CONNECTOR-5 Pos.
RL7	EP8X68	CONNECTOR-2 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
	EP62X166	KEYBOARD-Vol., Channel Sel.
	EP93X451	SET112 CONTROL BOARD-Complete
	★ EP93X415	UHF/VHF TUNER

SET112 TUNING SYSTEM (AC C

MISCELLANEOUS

REF. NO.	PART NO.	
	EP8X97	CABLE-13" Long,
	EP41X135	CHANNEL NUMBER
RL38	EP8X94	CONNECTOR-4 Pin
RL102	EP8X44	CONNECTOR-6 Pin
PG232	EP8X41	CONNECTOR-3 Pin
PG249	EP8X30	CONNECTOR-1 Pin
PG250	EP8X43	CONNECTOR-2 Pin
★ F950	EP10X27	FUSE-1.25amp, 2 Snap-In
	EP62X166	KEYBOARD-Vol.,
	EP93X421	POWER SUPPLY IN
	EP93X451	SET112 CONTROL
★ PT01	EP88X43	TRANSFORMER-Pow
	EP14X326	VARISTOR-"MOV",
	★ EP93X415	UHF/VHF TUNER

SET112 TUNER CONTROL BOARD EP93X451

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DISCRIPTION
Z500	EP41X68	CRYSTAL-Filter
† IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X231	Microcomputer
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DISCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	DARLINGTON, NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DISCRIPTI
Y103	EP57X4	Rectifie
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifie
Y111	EP57X4	Rectifie
Y112	EP57X4	Rectifie
Y202	EP16X12	7.5V, Ze
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DISCRIPT
L500	EP36X136	CHOKE-15
L501	EP36X136	CHOKE-15
L502	EP36X136	CHOKE-15

† IC100 9V REGULATOR USED IN PC CHASSIS MODELS ONLY.

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

SET112 SYSTEM TROUBLESHOOTING INFORMATION

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Categorized Symptoms

- Dark Raster (LED Readout Display OK)
  Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
  Check Bandswitch Transistors
- No Channel, No Keyboard Operation
  Check Microprocessor (IC601)
- No Last Channel or Favorite Channel Memory during power failure.
  Check IC800 (EAROM)
- Readout Display OK, but Channels Off-Frequency
  Check Bandswitch voltage, if OK, check IC500 (PLL Chip).

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microproessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry. be at fault.

Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED TO SET ELECTRONIC TUNING TROUBLESHOOTING FOR POSSIBLE SOLUTION TO THE PROBLEM

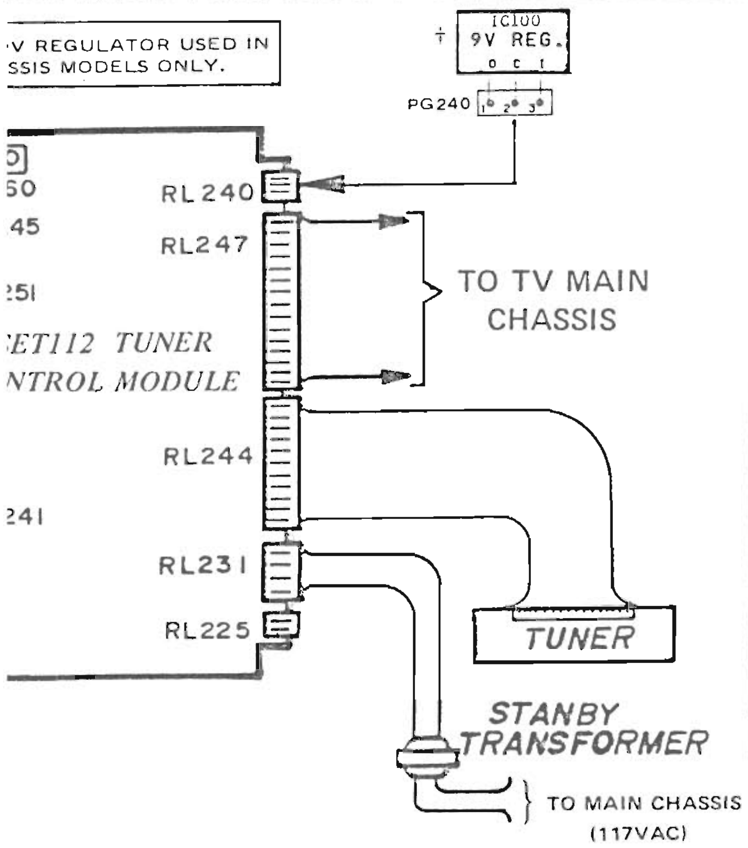
U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels; CH.1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

ROL BOARD PLUG LOCATIONS

·V REGULATOR USED IN ·SSIS MODELS ONLY.



)NTROL BOARD PLUG LOCATIONS

SET112 TUNING SYSTEM REPLACEMENT PARTS LIST

SET112 TUNING SYSTEM (PC CHASSIS)

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
R29	EP14X326	VARISTOR-Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
† IC100	EP84X230	3 Terminal 9V Regulator

COIL & TRANSFORMER

REF. NO	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
★ PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP92X110	BRACKET-Upper Controls Mtg, Plastic
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-SET112 Board To Tuner
	EP41X135	CHANNEL READOUT DISPLAY-Green
RL1	EP8X93	CONNECTOR-5 Pos.
RL7	EP8X68	CONNECTOR-2 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
	EP62X166	KEYBOARD-Vol., Channel Sel.
	EP93X451	SET112 CONTROL BOARD-Complete
	★ EP93X415	UHF/VHF TUNER

SET112 TUNING SYSTEM (AC CHASSIS)

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X97	CABLE-13" Long, W/Phono Type Plugs
	EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green
RL38	EP8X94	CONNECTOR-4 Pins
RL102	EP8X44	CONNECTOR-6 Pins
PG232	EP8X41	CONNECTOR-3 Pins
PG249	EP8X30	CONNECTOR-1 Pin
PG250	EP8X43	CONNECTOR-2 Pins
★ F950	EP10X27	FUSE-1.25amp, 250V, Fast Acting, Snap-In
	EP62X166	KEYBOARD-Vol., & Channel Select
	EP93X421	POWER SUPPLY INTERFACE CKT. BOARD
	EP93X451	SET112 CONTROL BOARD-Complete
★ PT01	EP88X43	TRANSFORMER-Power
	EP14X326	VARISTOR-"MOV", Metal Oxide
	★ EP93X415	UHF/VHF TUNER

POWER SUPPLY INTERFACE BOARD (AC CHASSIS ONLY) EP93X421

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1	ES14X57	390 ohm, 5%, 1/2W, Carbon
★ R2	EP14X167	150 ohm, 5%, 1W, Metal Oxide
★ R3	EP14X151	3.3 ohm, 5%, 1W, Metal Oxide
R4	EP14X129	220 ohm, 5%, 1/2W, Carbon
R5	EP14X295	910 ohm, 5%, 1/2W, Carbon
★ R6	EP14X245	39 ohm, 5%, 1W, Metal Oxide
★ R11	EP14X86	8.2K ohm, 5%, 2W, Metal Oxide

TRANSISTORS

REF. NO.	PART NO	DESCRIPTION
Q1	ES15X125	NPN, Silicon
Q2	ES15X125	NPN, Silicon
Q3	ES15X125	NPN, Silicon

DIODES

REF. NO.	PART NO	DESCRIPTION
Y2	EP16X36	Zener
Y3	EP57X4	Rectifier, Silicon
Y4	EP57X5	Rectifier, Silicon

COIL

REF. NO	PART NO.	DESCRIPTION
L1	EP36X144	CHOKE-27uh, 5%

SET112 TUNER CONTROL BOARD EP93X451

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DISCRIPTION
X500	EP41X68	CRYSTAL-Filter
† IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X231	Microcomputer
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DISCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	DARLINGTON, NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DISCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	7.5V, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

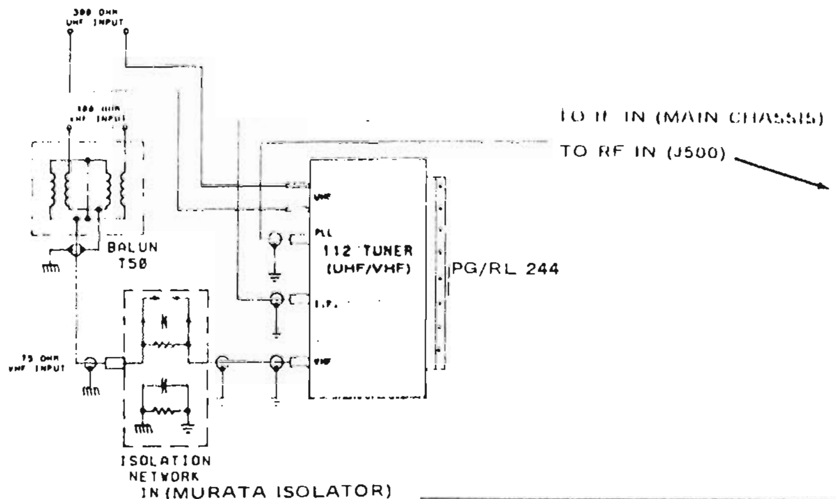
REF. NO	PART NO.	DISCRIPTION
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%

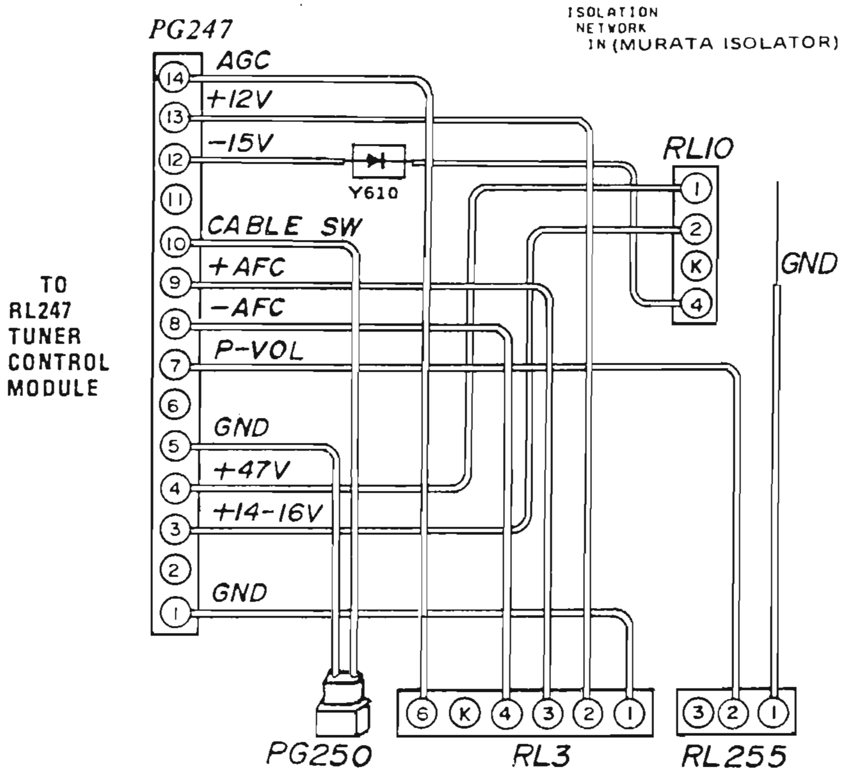
† IC100 9V REGULATOR USED IN PC CHASSIS MODELS ONLY.

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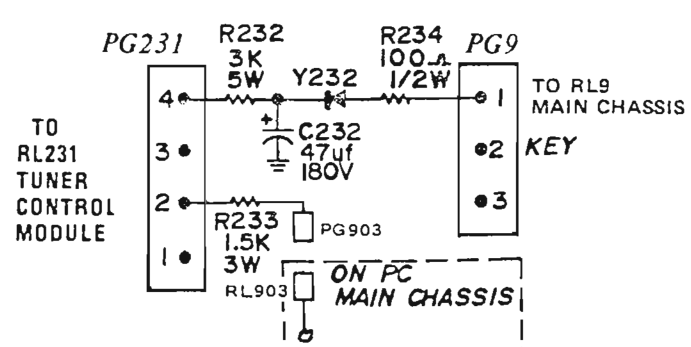
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

73E261881—2

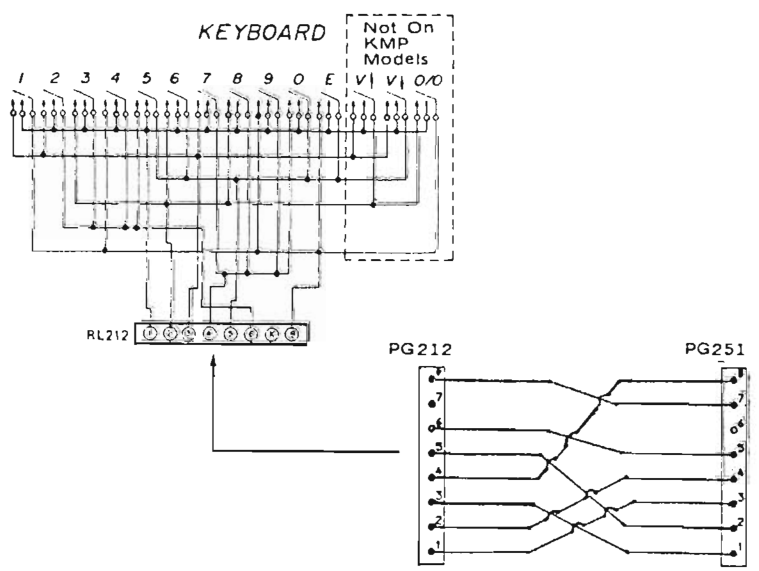




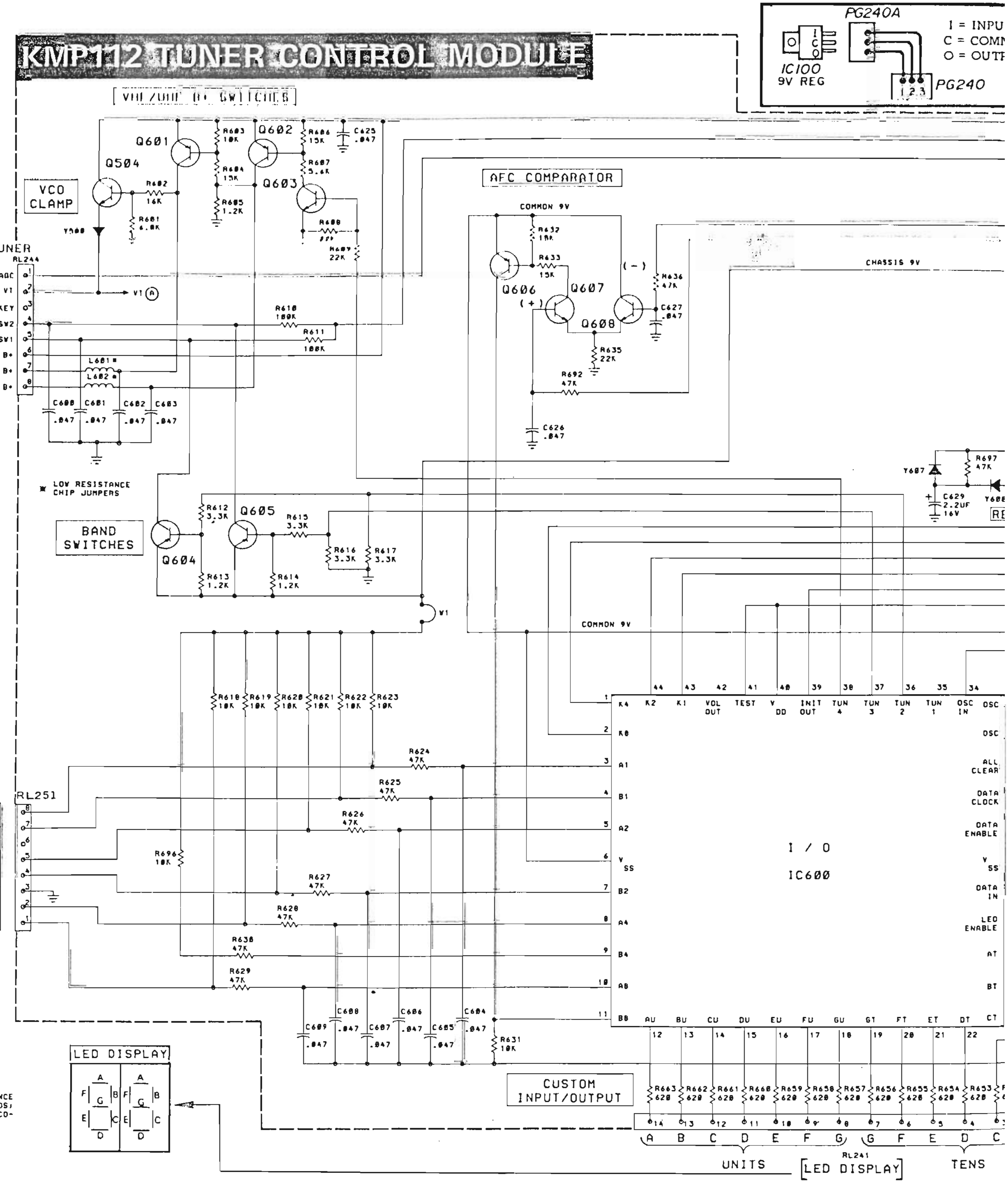
PC CHASSIS INTERFACE CONNECTIONS
TO KMP112 TUNER CONTROL MODULE



STANDBY POWER SUPPLY (PC CHASSIS)

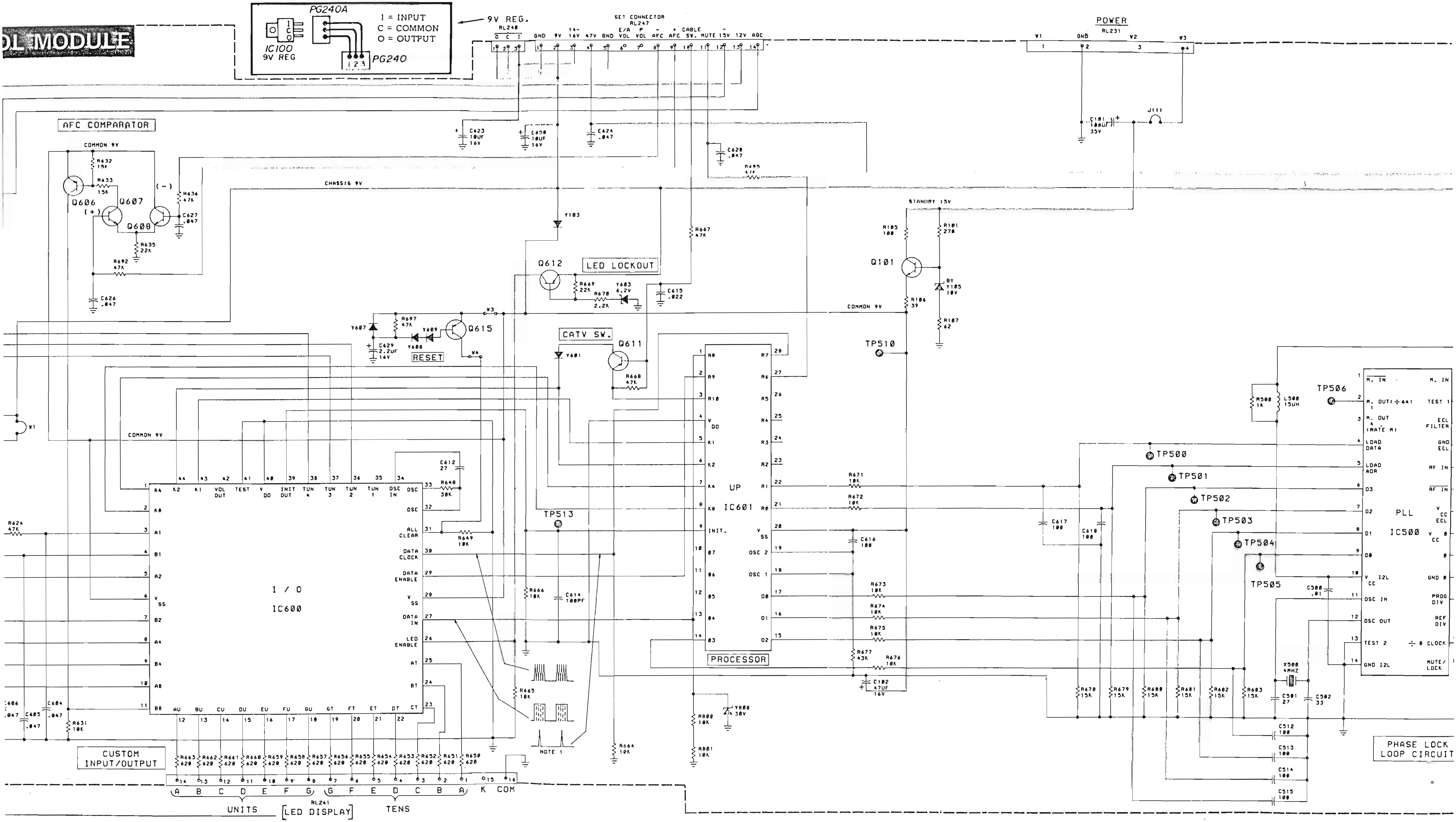


KEYBOARD HARNESS

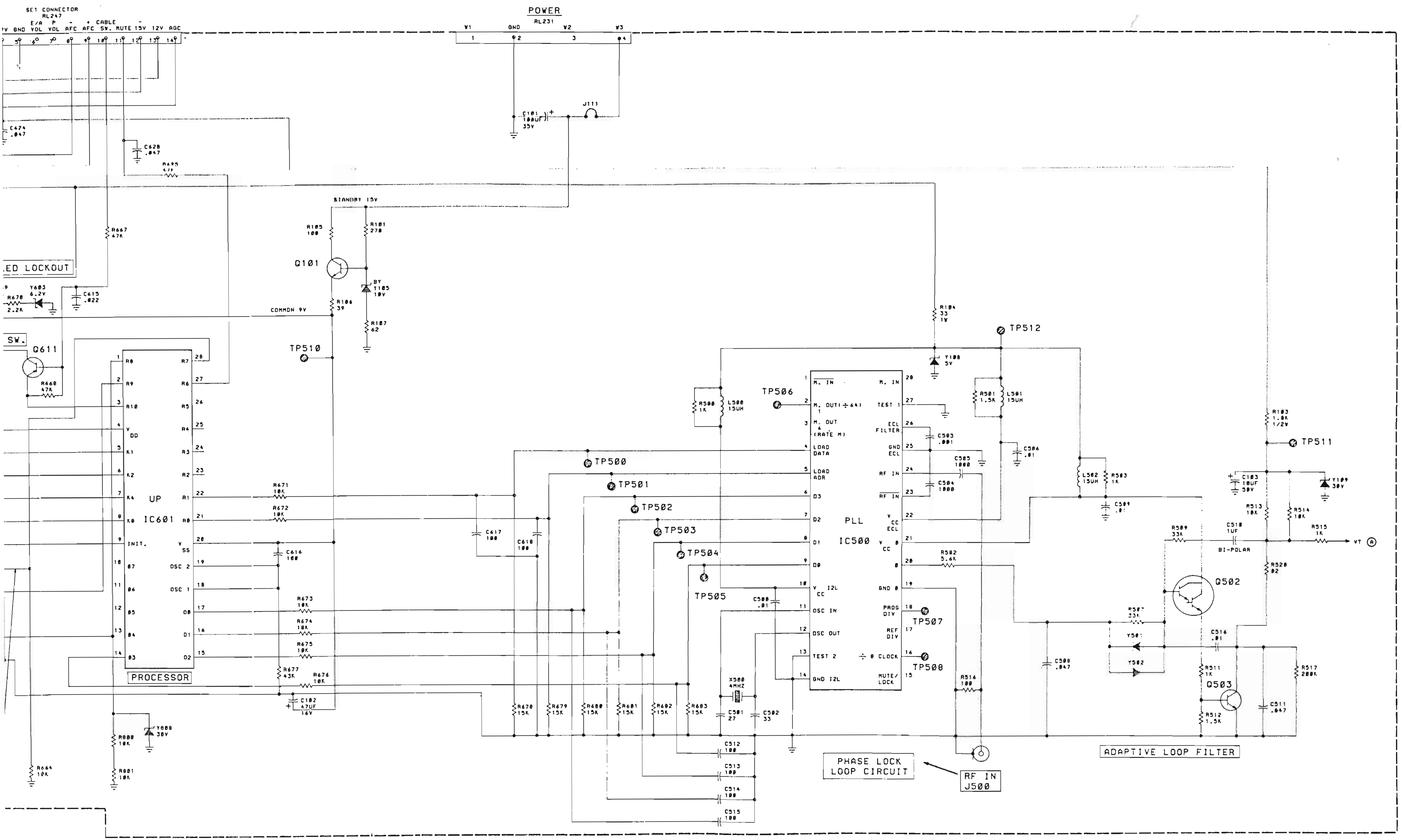


NOTES

1. SIGNAL WAVEFORMS SET ON, LOCKED ON CHANNEL.
2. UNLESS OTHERWISE NOTED, ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS; ALL VALUES GREATER THAN 1 ARE IN PICO-FARADS.



OL MODULE
PG240A
1 = INPUT
C = COMMON
O = OUTPUT
IC100
9V REG
PG240
9V REG.
SET CONNECTOR
RL247
POWER
RL231
AFC COMPARATOR
COMMON 9V
CHASSIS 9V
Q606
Q607
Q608
LED LOCKOUT
Q612
STANDBY 15V
Q101
RESET
Q615
CATV SW.
Q611
COMMON 9V
TP510
TP506
TP500
TP501
TP502
TP503
TP504
TP505
TP513
I / O
IC600
UP
IC601
PROCESSOR
PLL
IC500
CUSTOM
INPUT/OUTPUT
UNITS
LED DISPLAY
TENS
NOTE 1
PHASE LOCK
LOOP CIRCUIT



SET CONNECTOR
RL247
POWER
RL231
STANDBY 15V
COMMON 9V
Q101
Q611
Q502
Q503
TP500
TP501
TP502
TP503
TP504
TP505
TP506
TP507
TP508
TP510
TP511
TP512
UP
IC601
PROCESSOR
PLL
IC500
PHASE LOCK
LOOP CIRCUIT
RF IN
J500
ADAPTIVE LOOP FILTER
BI-POLAR
LED LOCKOUT
SW.

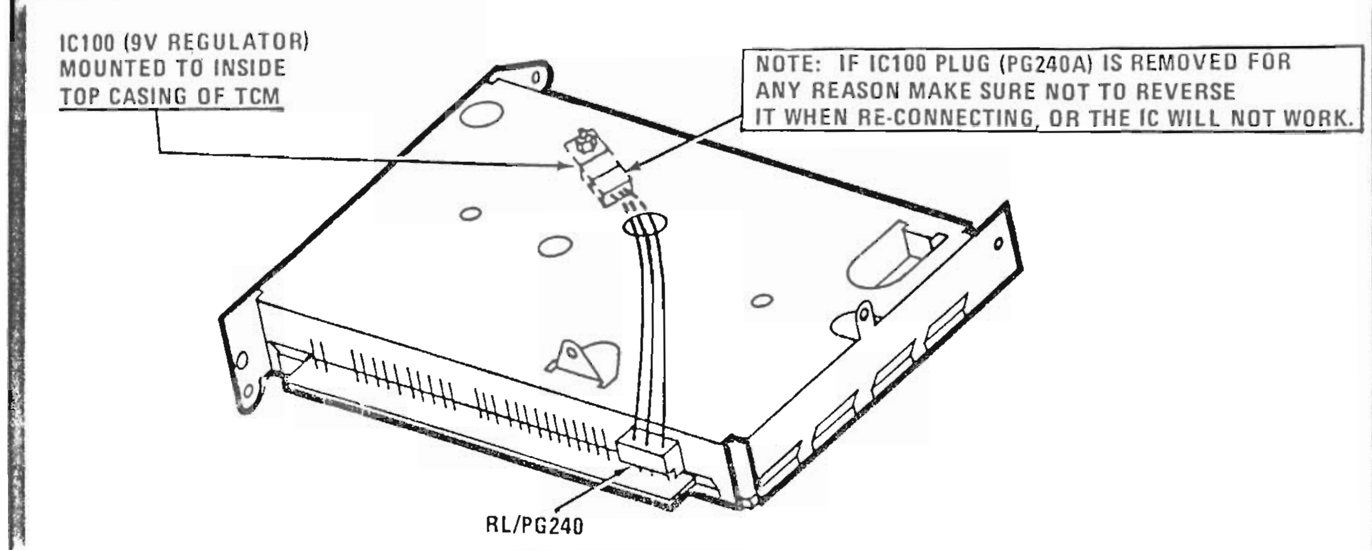
KMP112 ELECTRONIC TUNING SYSTEM

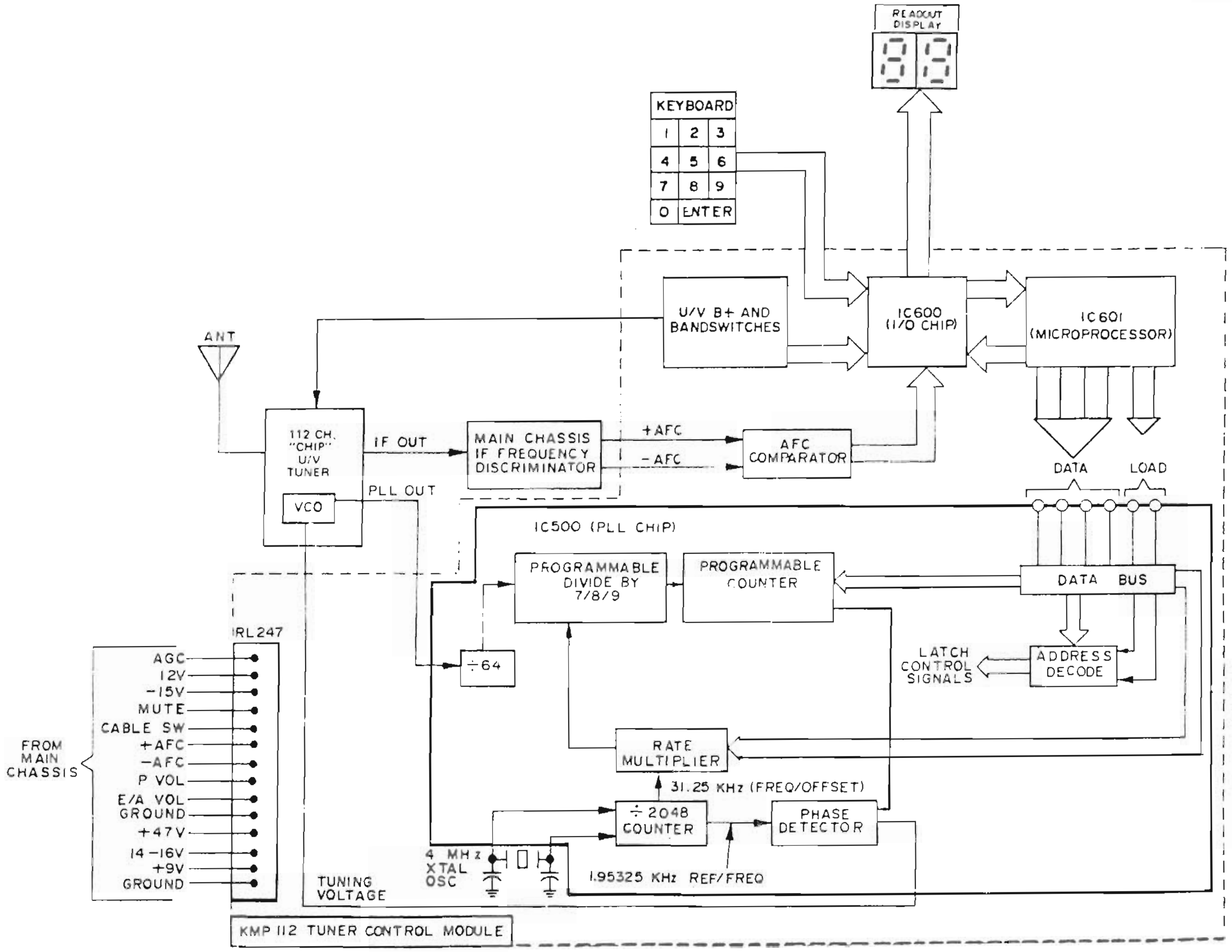
MINI-MANUAL

SERVICE INFORMATION
FOR TECHNICIAN
USE ONLY
ACCESSIBLE FROM INSIDE
TV SET ONLY

73E261761–3

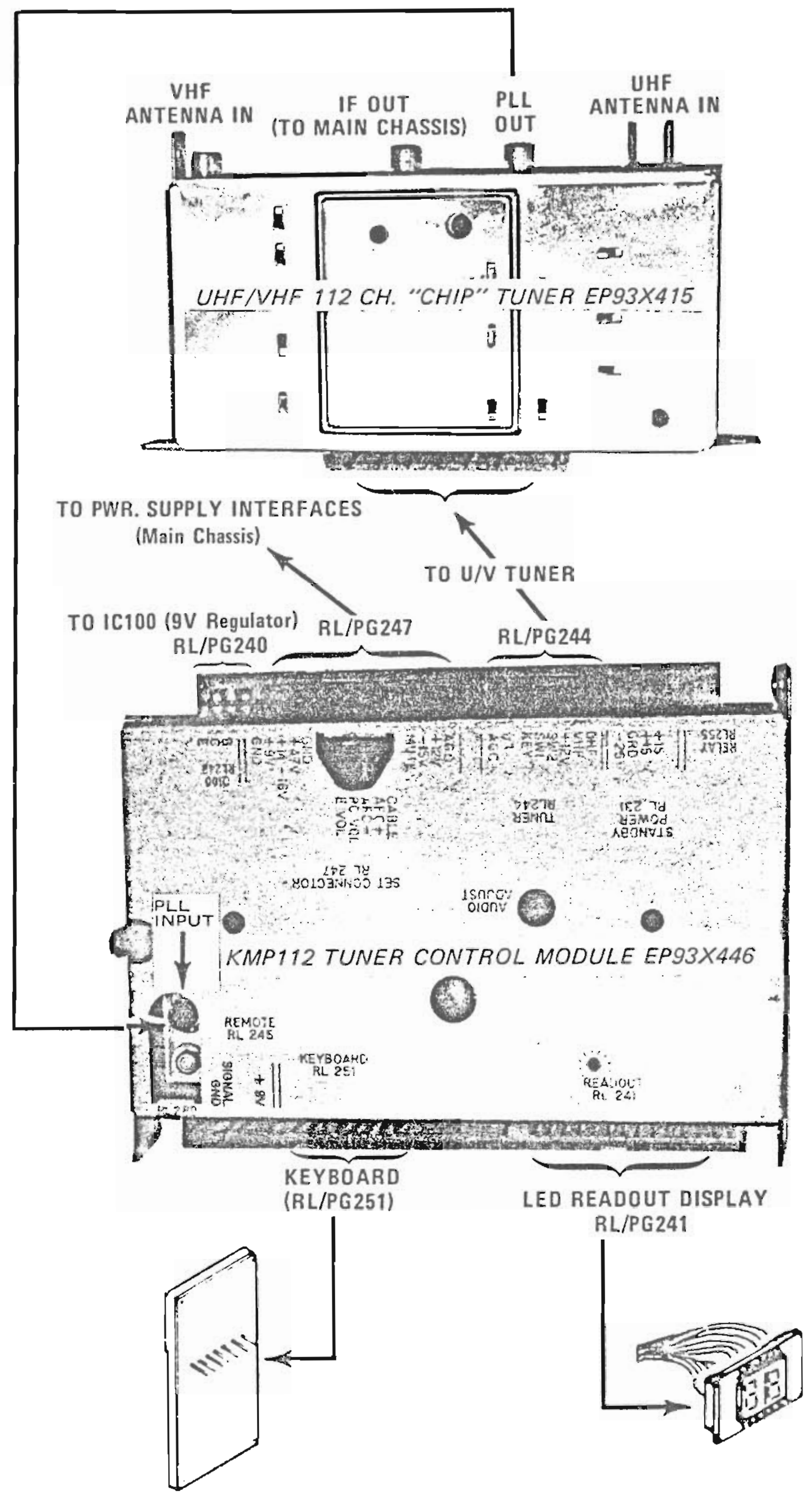
KMP112 TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)





KMP112 TUNING SYSTEM BLOCK DIAGRAM

KMP112 SYSTEM COMPONENT ASSEMBLIES



KMP112 SYSTEM COMPONENT ASSEMBLIES

KMP112 SYSTEM TROUBLESHOOTING INFORMATION

General: In order to troubleshoot the KMP 112 Ch. electronic tuning system more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247.
2. Check RL231, pin 4 for +15V Standby Supply.
3. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, check:

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC500 (PLL CHIP)

Categorized Symptoms

- Dark Raster (LED Readout Display OK)
  Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
  Check Bandswitch Transistors
- No Channel, No Keyboard Operation
  Check Microprocessor (IC601)
- No Last Channel Memory when set is switched OFF and back ON.
  Check Microprocessor (IC601)
- Readout Display OK, but Channels Off-Frequency
  Check Bandswitch voltage, is OK, check IC500 (PLL Chip).

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry• be at fault.

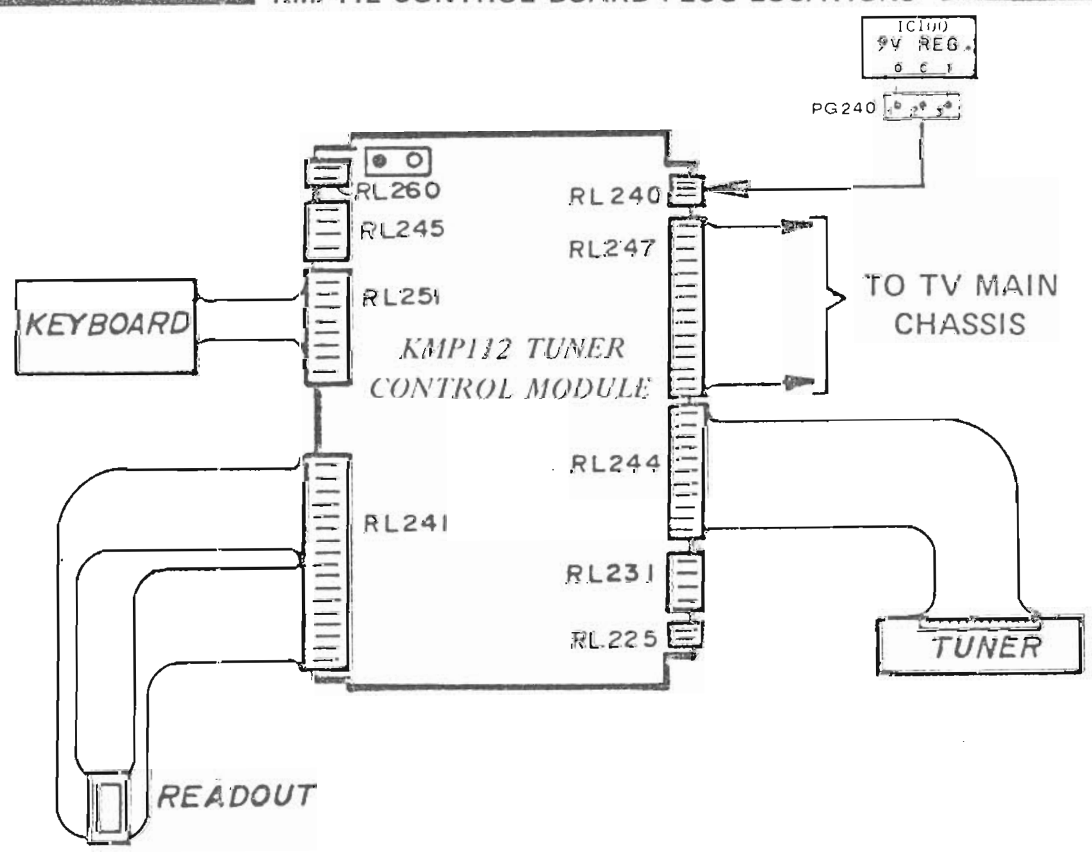
Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED TO KMP ELECTRONIC TUNING TROUBLESHOOTING FOR POSSIBLE SOLUTION TO THE PROBLEM.

▼U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH. 1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

KMP112 CONTROL BOARD PLUG LOCATIONS



KMP112 CONTROL BOARD PLUG LOCATIONS

KMP112 TUNING SYSTEM REPLACEMENT PARTS LIST

CAPACITORS

REF NO.	PART NO.	DESCRIPTION
C232	EP31X147	47uf, +50-10%, 160V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
★ R234	EP14X296	100 ohm, 5%, 1/2W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 Terminal, 9V Regulator

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COIL

REF. NO	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRI
	EP92X107	BRACKET-KMP
	EP8X60	CABLE-Anten
	EP8X125	CABLE-KMP E
	EP41X135	CHANNEL NUM
RL1	EP8X93	CONNECTOR-5
RL3	EP8X71	CONNECTOR-6
RL9	EP8X90	CONNECTOR-3
RL10	EP8X94	CONNECTOR-4
RL212	EP8X92	CONNECTOR-8
RL250	EP8X43	CONNECTOR-4
RL251	EP8X92	CONNECTOR-8
	EP93X185	KEYBOARD-CH
	EP93X446	KMP112 CONT
	EP34X41	SOCKET-IC10
	★ EP93X415	UHF/VHF TUN

KMP112 TUNER CONTROL BOARD (EP93X446)

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X226	Microcomputer

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q502	EP15X109	DARLINGTON, NPN, Silicon
Q503	EP15X87	Loop Filter Amp, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q615	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIP
Y103	EP57X4	Rectifier
Y105	EP16X155	10 Volt, Zer
Y108	EP16X152	5 Volt, Zene
Y109	EP16X32	30 Volt, Zer
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	6.2 Volt, Ze
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	30 Volt, Zen

COILS

REF. NO	PART NO.	DESCRIP
L500	EP36X136	CHOKE-15uh,
L501	EP36X136	CHOKE-15uh,
L502	EP36X136	CHOKE-15uh,

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS L
AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THA
PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC D
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION
FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

KMP112 SYSTEM TROUBLESHOOTING INFORMATION

Categorized Symptoms

- Dark Raster (LED Readout Display OK)
  Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
  Check Bandswitch Transistors
- No Channel, No Keyboard Operation
  Check Microprocessor (IC601)
- No Last Channel Memory when set is switched OFF and back ON.
  Check Microprocessor (IC601)
- Readout Display OK, but Channels Off-Frequency
  Check Bandswitch voltage, is OK, check IC500 (PLL Chip).

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry, be at fault.

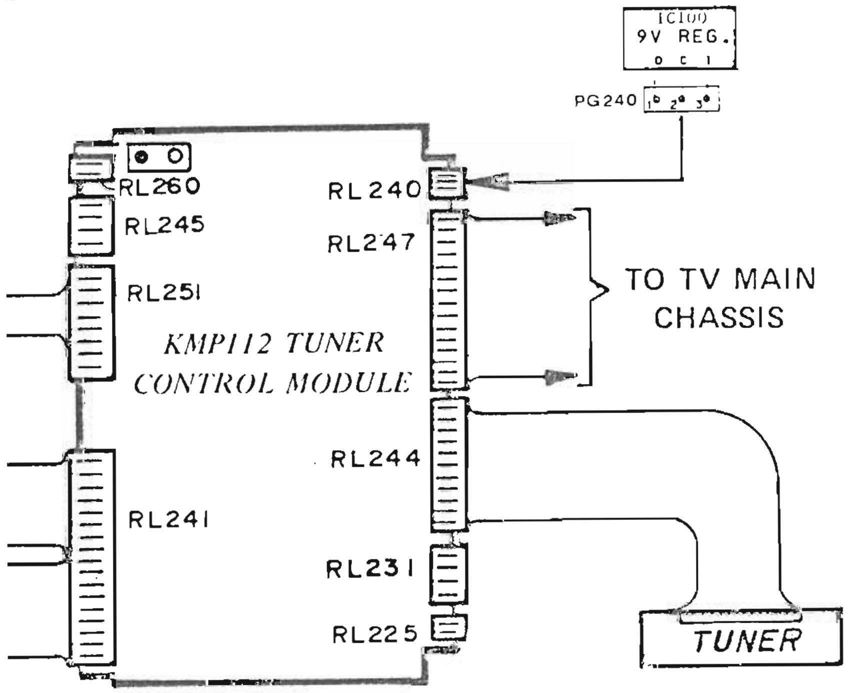
Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED TO KMP ELECTRONIC TUNING TROUBLESHOOTING FOR POSSIBLE SOLUTION TO THE PROBLEM.

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH.1=28V, 6=20V, 13=19V, 33=6 5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

KMP112 CONTROL BOARD PLUG LOCATIONS



KMP112 CONTROL BOARD PLUG LOCATIONS

KMP112 TUNING SYSTEM REPLACEMENT PARTS LIST

CAPACITORS

REF NO.	PART NO.	DESCRIPTION
C232	EP31X147	47uf, +50-10%, 180V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
★ R234	EP14X296	100 ohm, 5%, 1/2W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 Terminal, 9V Regulator

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COIL

REF. NO	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP92X107	BRACKET-KMP Mounting, Plastic
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X125	CABLE-KMP Board To Tuner
	EP41X135	CHANNEL NUMBER DISPLAY READOUT
RL1	EP8X93	CONNECTOR-5 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-4 Pos.
RL212	EP8X92	CONNECTOR-8 Pos.
RL250	EP8X43	CONNECTOR-2 Pins
RL251	EP8X92	CONNECTOR-8 Pos.
	EP93X185	KEYBOARD-Channel Select
	EP93X446	KMP112 CONTROL BOARD-Complete
	EP34X41	SOCKET-IC100
	★ EP93X415	UHF/VHF TUNER

KMP112 TUNER CONTROL BOARD (EP93X446)

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X226	Microcomputer

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q502	EP15X109	DARLINGTON, NPN, Silicon
Q503	EP15X87	Loop Filter Amp, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q615	EP15X48	PNP, Silicon

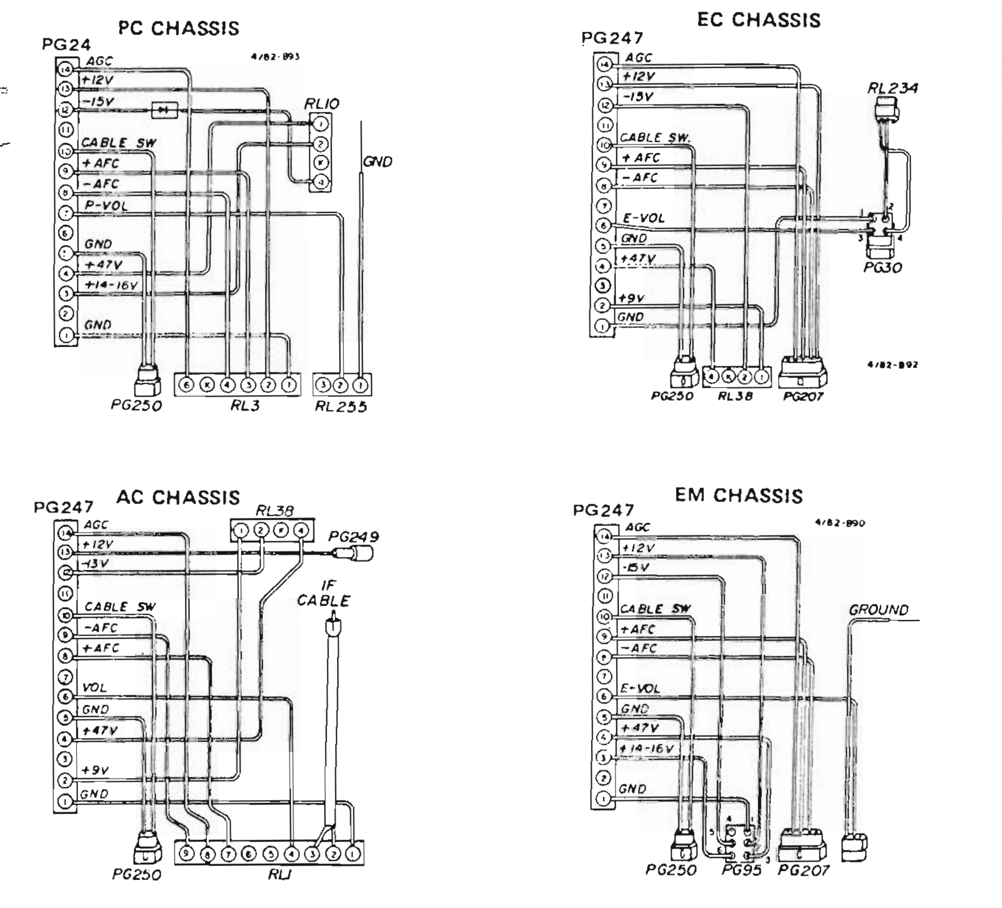
DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	10 Volt, Zener
Y108	EP16X152	5 Volt, Zener
Y109	EP16X32	30 Volt, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	6.2 Volt, Zener
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	30 Volt, Zener

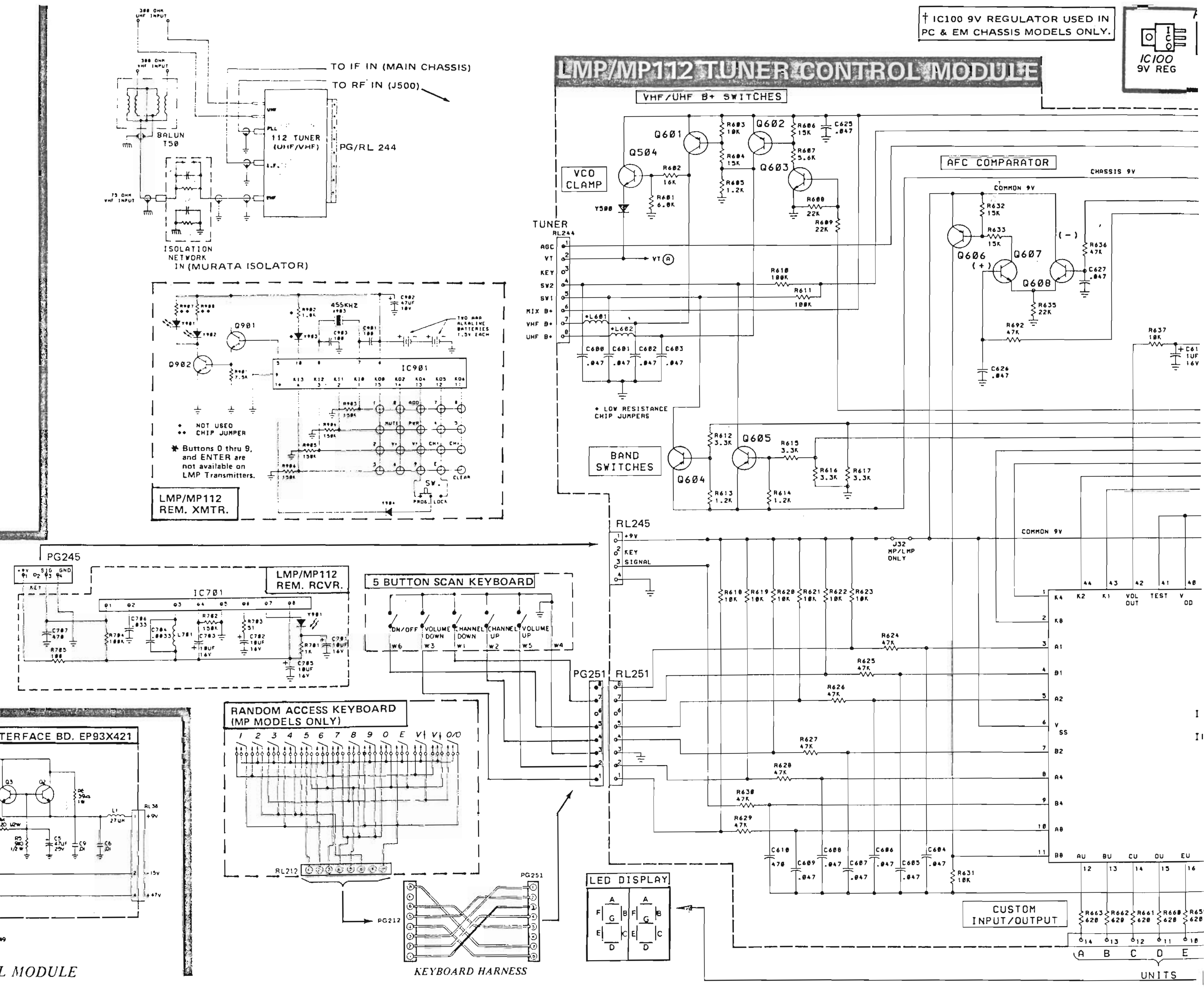
COILS

REF. NO	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%

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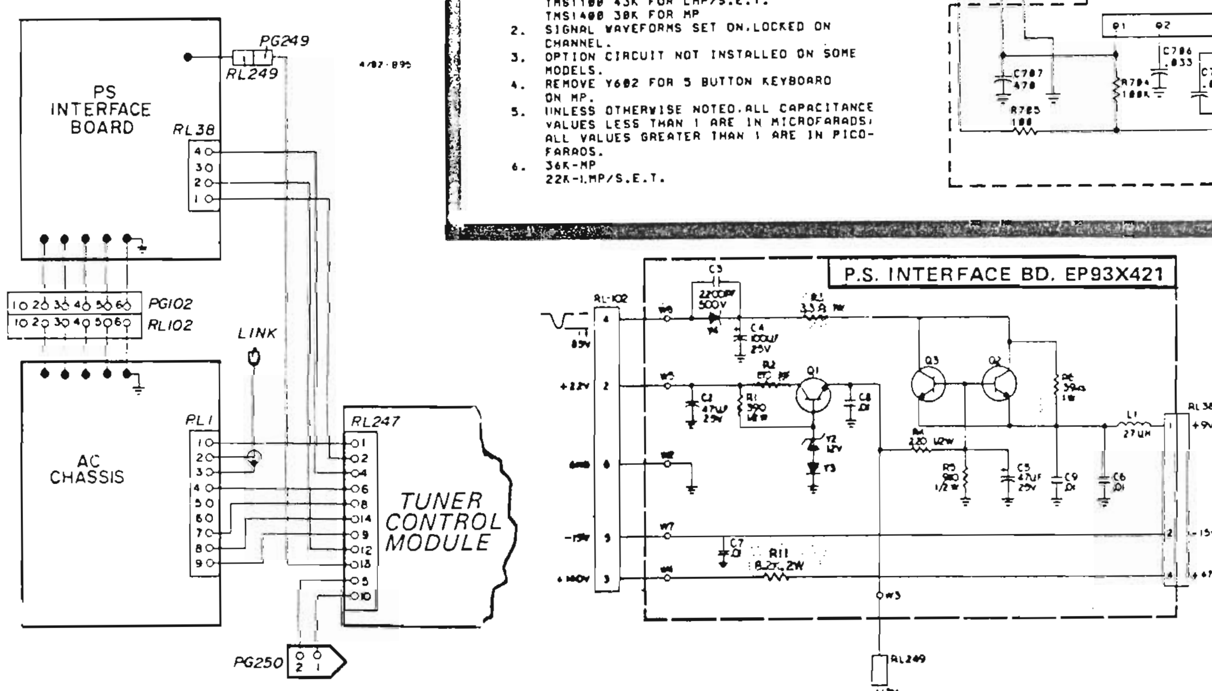


PC, EC, AC, AND EM CHASSIS INTERFACE CONNECTIONS TO 112 CHANNEL TUNER CONTROL MODULE

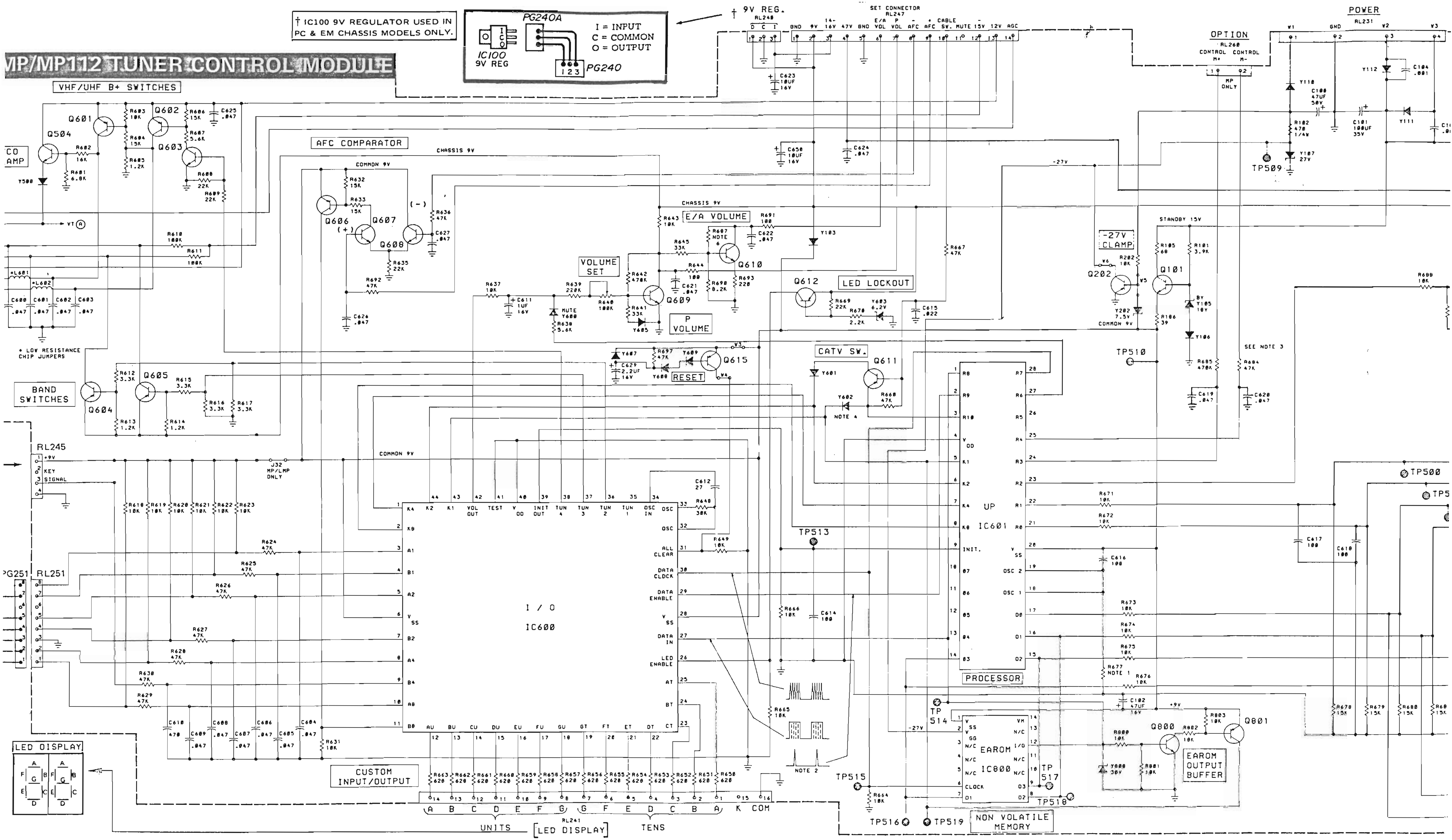


NOTES

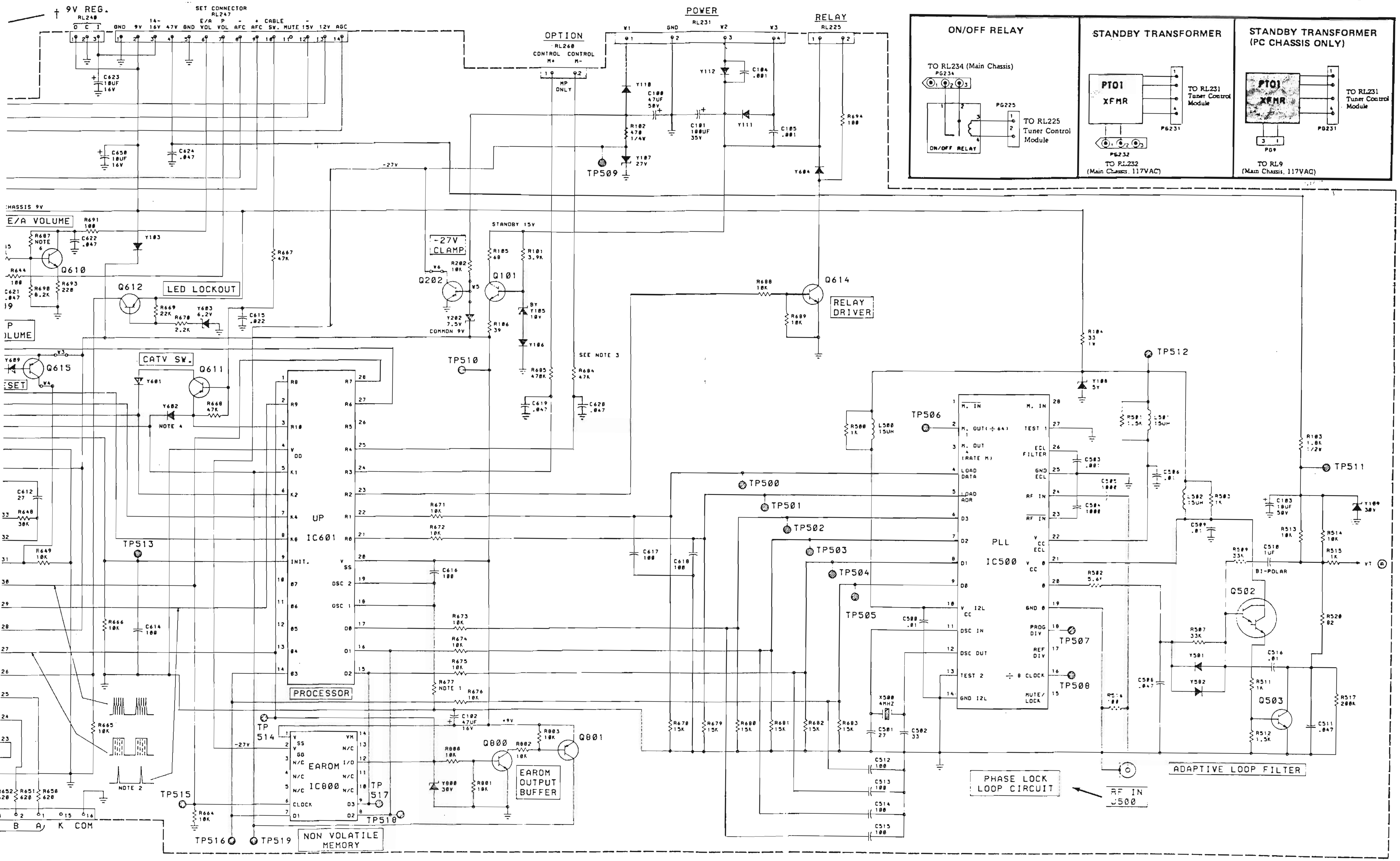
1. SELECT FOR:
   TMS1100 43K FOR LMP/S.E.T.
   TMS1400 30K FOR MP
2. SIGNAL WAVEFORMS SET ON, LOCKED ON CHANNEL.
3. OPTION CIRCUIT NOT INSTALLED ON SOME MODELS.
4. REMOVE Y602 FOR 5 BUTTON KEYBOARD ON MP.
5. UNLESS OTHERWISE NOTED, ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS; ALL VALUES GREATER THAN 1 ARE IN PICO-FARADS.
6. 36K-MP
   22K-LMP/S.E.T.



AC CHASSIS PWR. SUPPLY INTERFACE TO TUNER CONTROL MODULE



MP/MP112 TUNER CONTROL MODULE
† IC100 9V REGULATOR USED IN PC & EM CHASSIS MODELS ONLY.
PG240A
IC100 9V REG
PG240
I = INPUT
C = COMMON
O = OUTPUT
† 9V REG.
SET CONNECTOR RL247
OPTION
POWER
VHF/UHF B+ SWITCHES
AFC COMPARATOR
E/A VOLUME
VOLUME SET
P VOLUME
LED LOCKOUT
-27V CLAMP
CATV SW.
RESET
BAND SWITCHES
* LOW RESISTANCE CHIP JUMPERS
RL245
RL251
PG251
COMMON 9V
CHASSIS 9V
STANDBY 15V
I / O IC600
CUSTOM INPUT/OUTPUT
UP IC601
PROCESSOR
EAROM IC800
NON VOLATILE MEMORY
EAROM OUTPUT BUFFER
LED DISPLAY
UNITS
TENS
NOTE 2
TP500
TP509
TP510
TP513
TP514
TP515
TP516
TP517
TP518
TP519



9V REG.
SET CONNECTOR
OPTION
MP ONLY
POWER
RL231
RELAY
RL225
ON/OFF RELAY
TO RL234 (Main Chassis)
TO RL225 Tuner Control Module
ON/OFF RELAY
STANDBY TRANSFORMER
PT01
XFMR
TO RL231 Tuner Control Module
TO RL232 (Main Chassis, 117VAC)
STANDBY TRANSFORMER (PC CHASSIS ONLY)
TO RL9 (Main Chassis, 117VAC)
E/A VOLUME
Q610
Q612
LED LOCKOUT
-27V CLAMP
Q202
Q101
STANDBY 15V
COMMON 9V
Q614
RELAY DRIVER
CATV SW.
Q615
Q611
TP509
TP510
SEE NOTE 3
NOTE 4
TP512
TP506
TP511
UP
IC601
PROCESSOR
PLL
IC500
TP500
TP501
TP502
TP503
TP504
TP505
TP507
TP508
TP513
TP514
TP515
TP516
TP517
TP518
TP519
EAROM
IC800
Q800
Q801
EAROM OUTPUT BUFFER
NON VOLATILE MEMORY
NOTE 2
PHASE LOCK LOOP CIRCUIT
RF IN J500
ADAPTIVE LOOP FILTER
Q502
Q503
BI-POLAR
VT

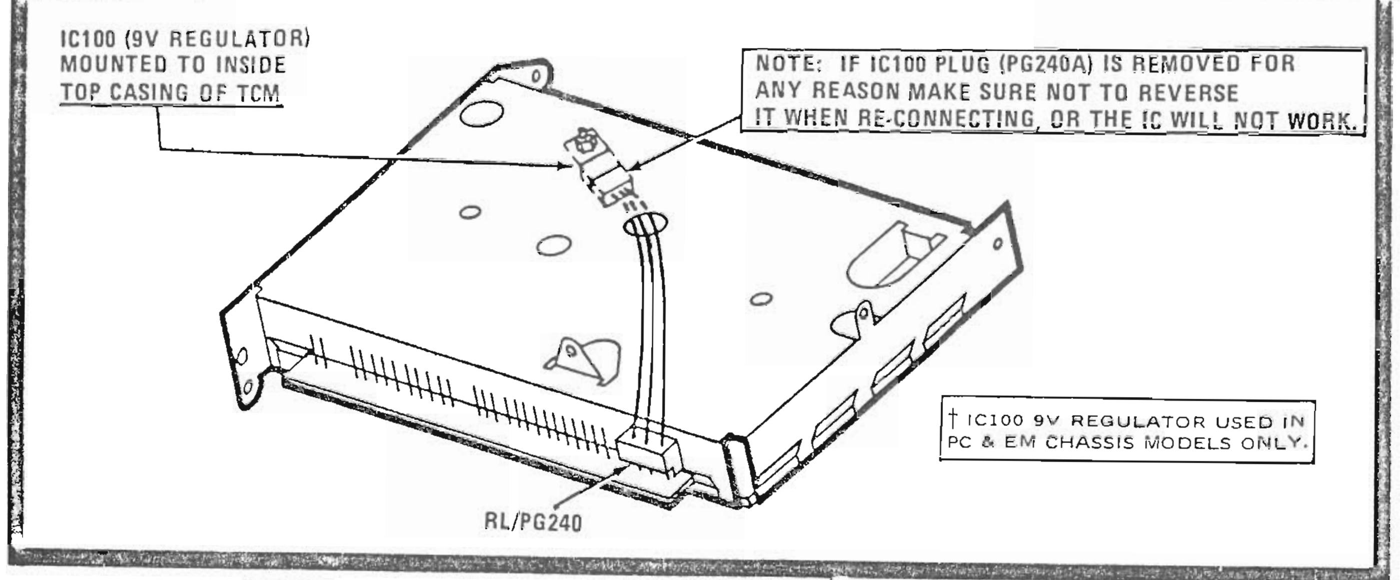
LMP/MP112 ELECTRONIC TUNING SYSTEM

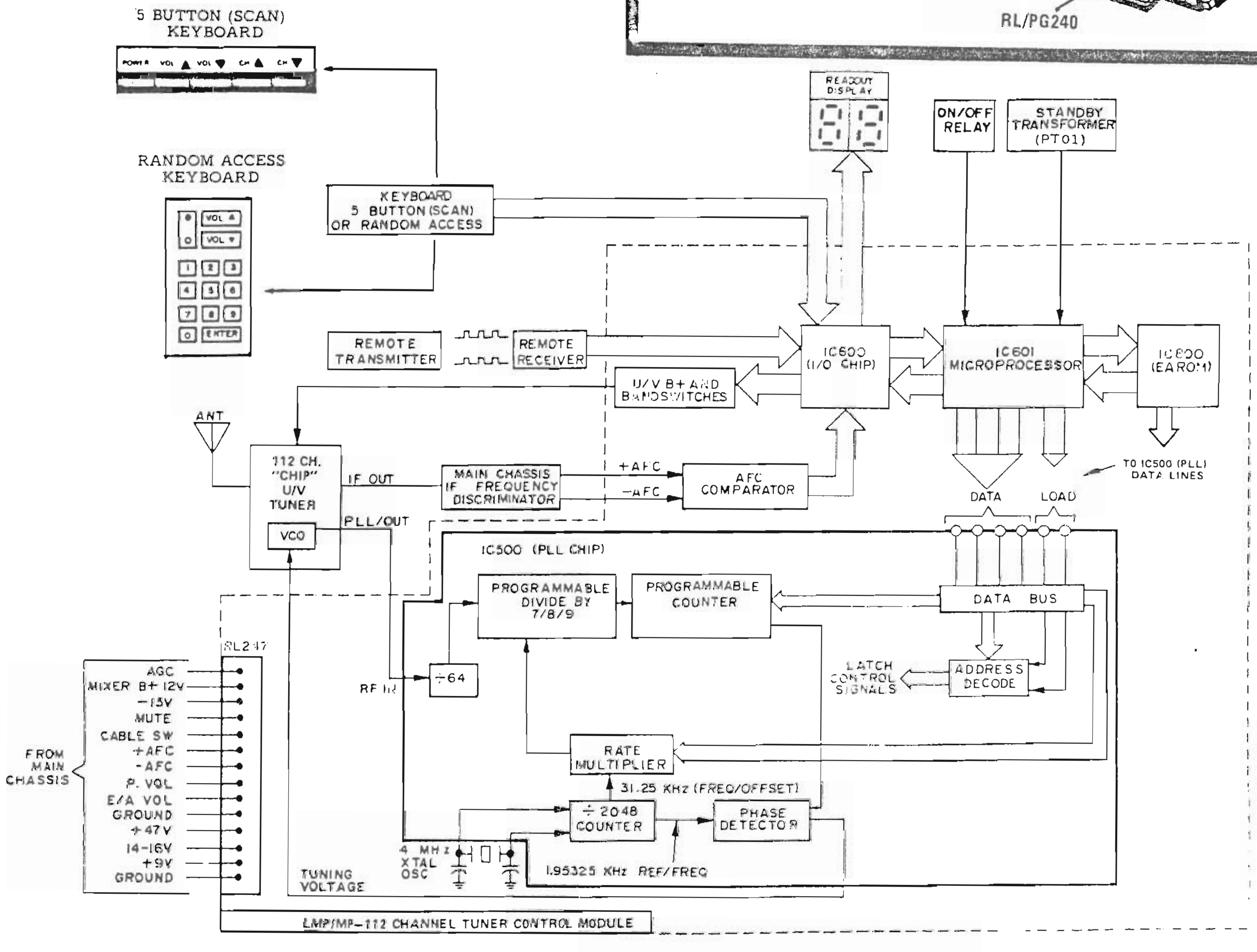
MINI-MANUAL

SERVICE INFORMATION
FOR TECHNICIAN
USE ONLY
ACCESSIBLE FROM INSIDE
TV SET ONLY

73E261853-2

LMP/MP112 TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)

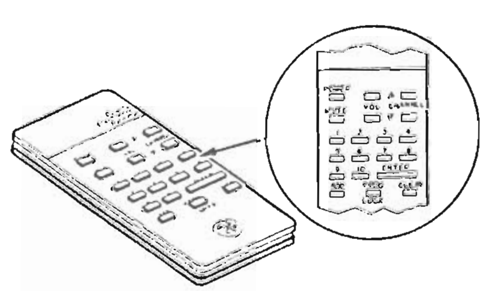




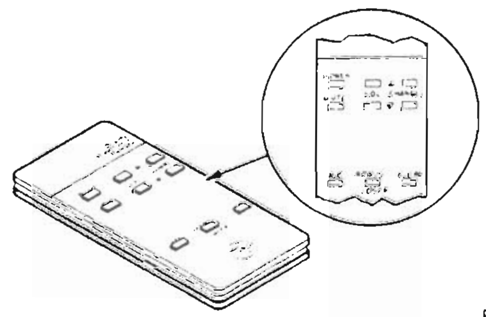
LMP/MP-112 CHANNEL TUNING SYSTEMS BLOCK DIAGRAM



LMP/MP-112 REM.RCVR.

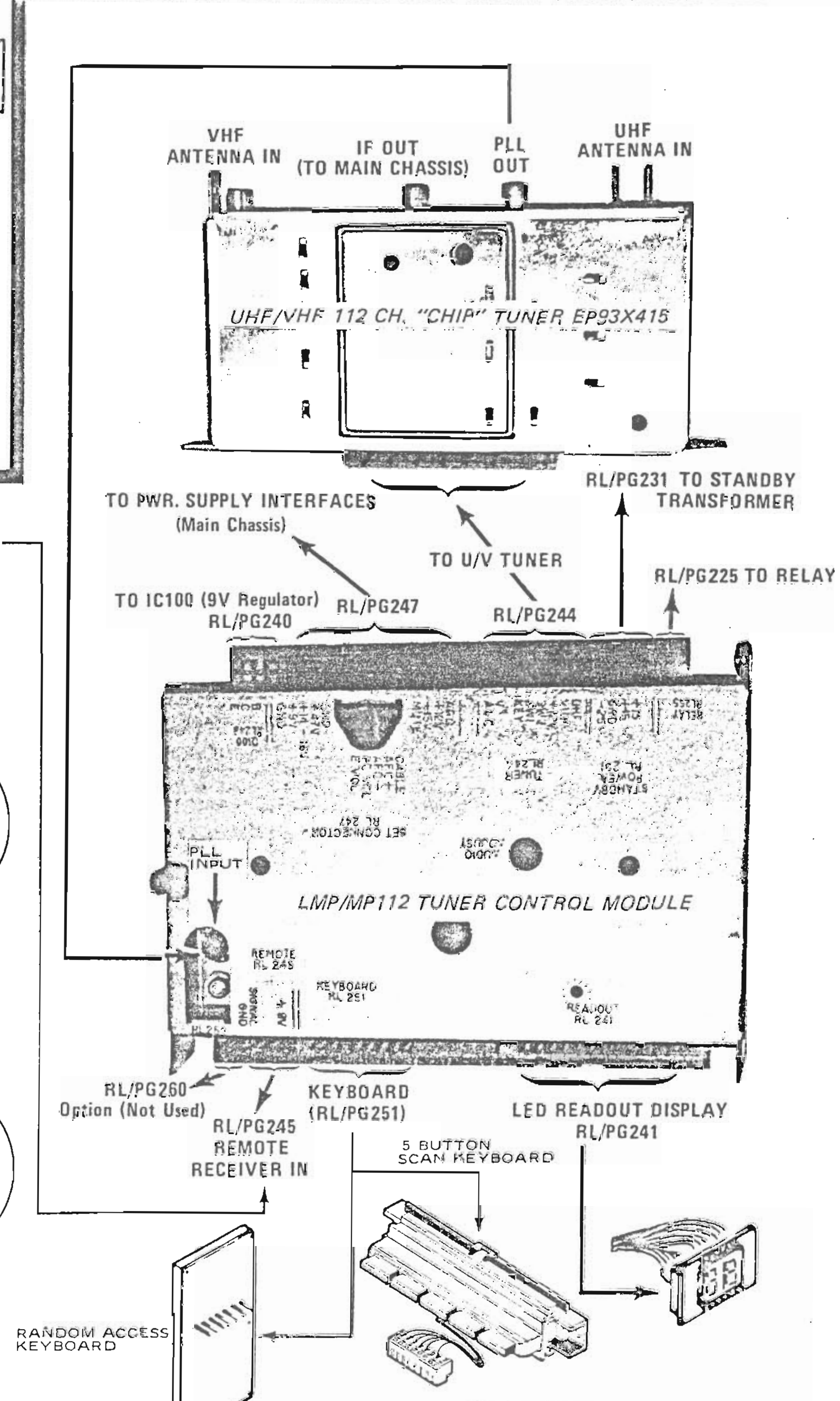


MP112 REM. XMTR.



LMP112 REM. XMTR.

LMP/MP112 SYSTEM COMPONENT ASSEMBLIES



LMP/MP112 SYSTEM COMPONENT ASSEMBLIES

LMP/MP112 SYSTEM TROUBLESHOOTING INFORMATION

General: In order to troubleshoot the 112 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247. (Check +15V only if IC regulator is included with tuner control module).
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (–) 27V supply to IC800, EAROM.
3. Check RL225, pin 1 for ON/OFF Relay B+ 13 to 17VDC.
4. Check RL245, pin 1 for Remote Receiver B+ 7.5 to 8.5 VDC.

NOTE:

RL225 Pin 1, +15 V must be correct before the set will switch on. If supplies are OK, the On/OFF relay may be forced on by grounding pin 2 of RL/PG225 through a 100 ohm, ½ watt resistor. Replace Q614 if necessary, otherwise inspect TV power supplies.

5. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check:

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC800 (EAROM)
6. IC500 (PLL CHIP)

Categorized Symptoms

- No Remote control (Keyboard works OK). (Note: LMP/MP Keyboard follows favorite/sequential action of transmitter(5 button keyb'd.) Check Transmitter
- Dark Raster (LED Readout Display OK) Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only) Check Bandswitch Transistors
- No Channel, No Keyboard or Remote operation with Relay forced ON (LMP/MP) Check Microprocessor (IC601)
- No Last Channel or Favorite Channel Memory during power failure. Check IC800
- Readout Display OK, but Channels Off-Frequency Check Bandswitch voltage, if OK, check IC500 (PLL Chip).

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microproessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry. be at fault.

Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED TO 112 ELECTRONIC TUNING TROUBLESHOOTING FOR POSSIBLE SOLUTION TO THE PROBLEM.

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH.1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

LMP/MP112 TUNING SYSTEMS REPLACEMENT PARTS LIST

LMP112 TUNING SYSTEM

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
† IC100	EP84X230	3 Terminal 9V Regulator

COIL & TRANSFORMER

REF. NO	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
★ PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP92X106	BRACKET-Keyboard Mounting, Plastic
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-LMP112 Board To Tuner
	EP41X135	CHANNEL READOUT DISPLAY-Green
RL1	EP8X93	CONNECTOR-5 Pos.
RL7	EP8X68	CONNECTOR-2 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
	EP62X161	KEYBOARD-On/Off, Vol. Channel Sel.
	EP93X445	LMP112 CONTROL BOARD-Complete
	EP93X417	REMOTE CONTROL RECEIVER
	EP62X164	REMOTE CONTROL TRANSMITTER ASM
	★ EP41X130	RELAY
	★ EP93X394	RELAY CIRCUIT BOARD-Bare
	EP34X41	SOCKET-IC100
	★ EP93X415	UHF/VHF TUNER
	EP93X421	POWER SUPPLY INTERFACE CKT. BOARD (AC CHASSIS ONLY)

MP112 TUNING SYSTEM

FUSE

REF. NO	PART NO.	DESCRIPT
★ F95	EP10X28	FUSE-1/4 amp,

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTI
† IC100	EP84X230	3 Terminal 9V

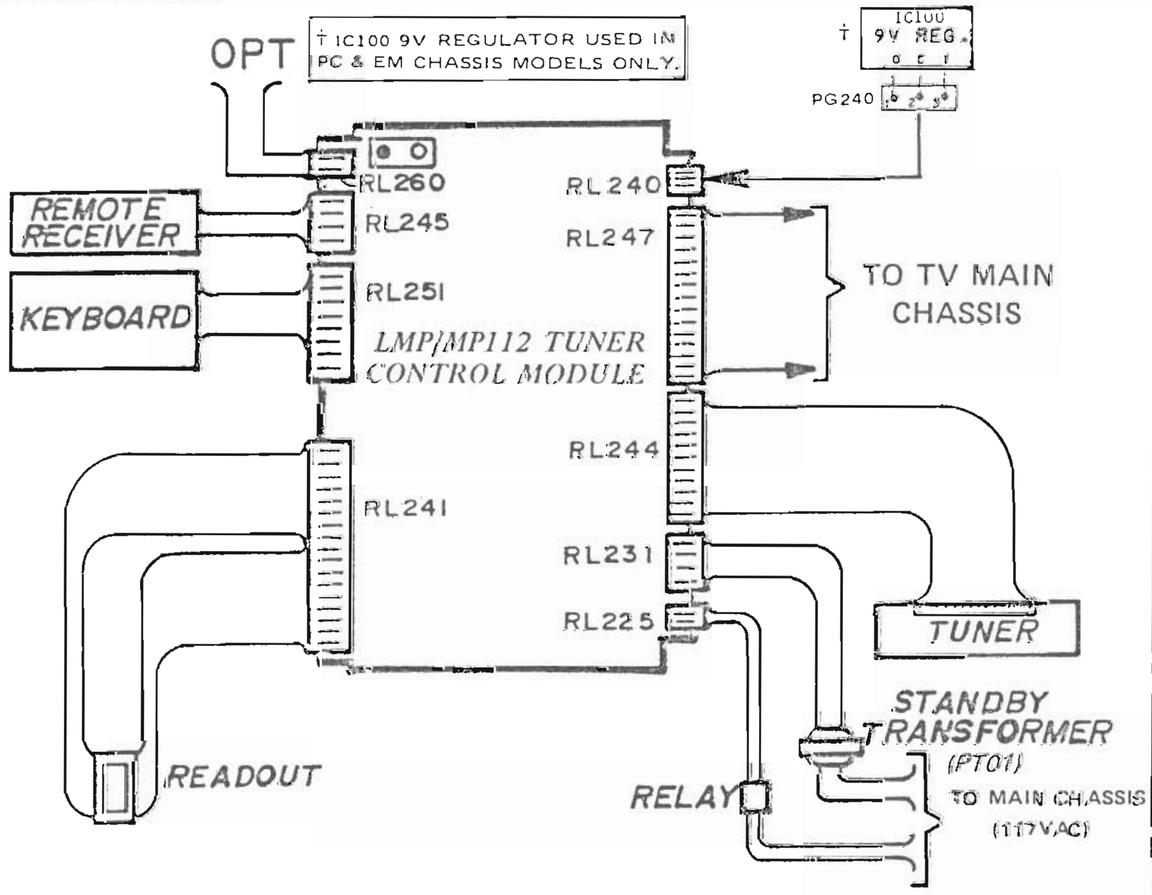
TRANSFORMER

REF. NO	PART NO.	DESCRIPTI
★ PT01	EP88X43	TRANSFORMER-Po

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTI
	EP8X97	CABLE-MP112 To
	EP8X108	CABLE-Antenna
	EP3X40	CLIP-Channel R
	EP3X50	CLIP-Keyboard
RL212	EP8X92	CONNECTOR-8 Po
RG232	EP9X41	CONNECTOR-3 Pi
PG234	EP8X41	CONNECTOR-3 Pi
RL251	EP8X92	CONNECTOR-8 Po
	EP41X136	CHANNEL READOU
	EP62X138	KEYBOARD-On/Of
	EP93X444	MP112 CONTROL (
	★ EP41X129	RELAY
	EP93X417	REMOTE RECEIVE
	EP62X165	REMOTE TRANSMI
	EP34X41	SOCKET-IC100
	★ EP93X415	UHF/VHF TUNER

LMP/MP112 CONTROL BOARD PLUG LOCATIONS



LMP/MP112 CONTROL BOARD PLUG LOCATIONS

POWER SUPPLY INTERFACE BOARD (AC CHASSIS ONLY) EP93X421

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1	ES14X57	390 ohm, 5%, 1/2W, Carbon
★ R2	EP14X167	150 ohm, 5%, 1W, Metal Oxide
★ R3	EP14X151	3.3 ohm, 5%, 1W, Metal Oxide
R4	EP14X129	220 ohm, 5%, 1/2W, Carbon
R5	EP14X295	910 ohm, 5%, 1/2W, Carbon
★ R6	EP14X245	39 ohm, 5%, 1W, Metal Oxide
★ R11	EP14X86	8.2K ohm, 5%, 2W, Metal Oxide

TRANSISTORS

REF. NO.	PART NO	DESCRIPTION
Q1	ES15X125	NPN, Silicon
Q2	ES15X125	NPN, Silicon
Q3	ES15X125	NPN, Silicon

DIODES

REF. NO	PART NO	DESCRIPTION
Y2	EP16X36	Zener
Y3	EP57X4	Rectifier, Silicon
Y4	EP57X5	Rectifier, Silicon

COIL

REF. NO	PART NO.	DESCRIPTION
L1	EP36X144	CHOKE-27uh, 5%

LMP112 TUNER CONTROL MODULE (EP93X445) AND MP112 TUNER CONTROL MODULE (EP

INTEGRATED CIRCUITS

REF. NO	PART NO	DISCRIPTION
X500	EP41X68	CRYSTAL-Filter
† IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X223	Microcomputer (LMP112 ONLY)
IC601	EP84X225	Microcomputer (MP112 ONLY)
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DISCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	DARLINGTON, NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
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Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF NO.	PART NO	DISC
Y103	EP57X4	Rect
Y105	EP16X155	Zene
Y106	ES16X27	Sili
Y107	EP16X156	Zene
Y108	EP16X152	Zene
Y109	EP16X32	Zene
Y110	EP57X4	Rect
Y111	EP57X4	Rect
Y112	EP57X4	Rect
Y202	EP16X12	7.5V
Y500	ES16X27	Sili
Y501	ES16X27	Sili
Y502	ES16X27	Sili
Y600	ES16X27	Sili
Y601	ES16X27	Sili
Y602	ES16X27	Sili
Y603	EP16X153	Zene
Y604	ES16X27	Sili
Y605	ES16X27	Sili
Y607	ES16X27	Sili
Y608	ES16X27	Sili
Y609	ES16X27	Sili
Y800	EP16X32	Zene

COILS

REF NO.	PART NO	DISC
L500	EP36X136	CHOK
L501	EP36X136	CHOK
L502	EP36X136	CHOK

† IC100 9V REGULATOR U PC & EM CHASSIS MODELS

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LMP/MP112 SYSTEM TROUBLESHOOTING INFORMATION

Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check:

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC800 (EAROM)
6. IC500 (PLL CHIP)

Categorized Symptoms

- No Remote control (Keyboard works OK). (Note: LMP/MP Keyboard follows favorite/sequential action of transmitter(5 button keyb'd.)
  Check Transmitter
- Dark Raster (LED Readout Display OK)
  Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
  Check Bandswitch Transistors
- No Channel, No Keyboard or Remote operation with Relay forced ON (LMP/MP)
  Check Microprocessor (IC601)
- No Last Channel or Favorite Channel Memory during power failure.
  Check IC800
- Readout Display OK, but Channels Off-Frequency
  Check Bandswitch voltage, if OK, check IC500 (PLL Chip).

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microproessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry. be at fault.

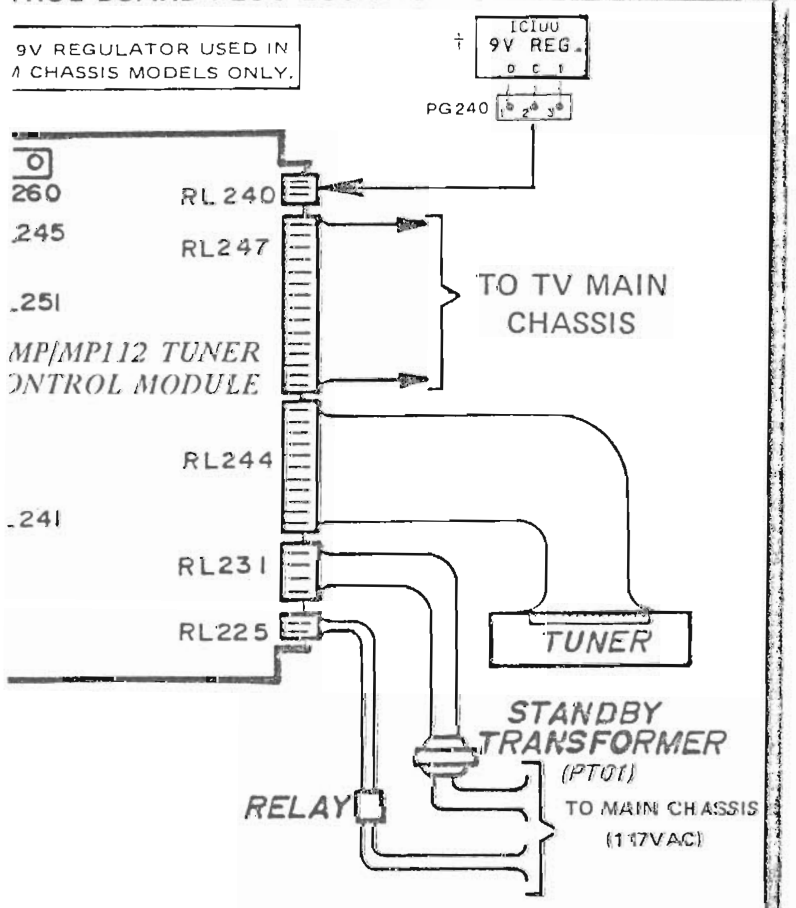
Check the IF per Main Chassis troubleshooting chart IF OK, PROCEED TO 112 ELECTRONIC TUNING TROUBLESHOOTING FOH POSSIBLE SOLUTION TO THE PROBLEM.

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels; CH.1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

TROL BOARD PLUG LOCATIONS



CONTROL BOARD PLUG LOCATIONS

LMP/MP112 TUNING SYSTEMS REPLACEMENT PARTS LIST

LMP112 TUNING SYSTEM

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
† IC100	EP84X230	3 Terminal 9V Regulator

COIL & TRANSFORMER

REF. NO	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
★ PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP92X106	BRACKET-Keyboard Mounting; Plastic
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-LMP112 Board To Tuner
	EP41X135	CHANNEL READOUT DISPLAY-Green
RL1	EP8X93	CONNECTOR-5 Pos.
RL7	EP8X68	CONNECTOR-2 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
	EP62X161	KEYBOARD-On/Off, Vol , Channel Sel
	EP93X445	LMP112 CONTROL BOARD Complete
	EP93X417	REMOTE CONTROL RECEIVER
	EP62X164	REMOTE CONTROL TRANSMITTER ASM
	★ EP41X130	RELAY
	★ EP93X394	RELAY CIRCUIT BOARD-Bare
	EP34X41	SOCKET-IC100
	★ EP93X415	UHF/VHF TUNER
	EP93X421	POWER SUPPLY INTERFACE CKT. BOARD (AC CHASSIS ONLY)

MP112 TUNING SYSTEM

FUSE

REF. NO	PART NO.	DESCRIPTION
★ F95	EP10X28	FUSE-1/4 amp, 230V, Fast Acting

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
† IC100	EP84X230	3 Terminal 9V Regulator

TRANSFORMER

REF. NO	PART NO.	DESCRIPTION
★ PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X97	CABLE-MP112 To Tuner (11")
	EP8X108	CABLE-Antenna To Tuner (9")
	EP3X40	CLIP-Channel Readout Display Mtg.
	EP3X50	CLIP-Keyboard Mtg.
RL212	EP8X92	CONNECTOR-8 Pos.
RG232	EP9X41	CONNECTOR-3 Pins
PG234	EP8X41	CONNECTOR-3 Pins
RL251	EP8X92	CONNECTOR-8 Pos.
	EP41X136	CHANNEL READOUT DISPLAY-Green
	EP62X138	KEYBOARD-On/Off, Vol., & Channel Sel.
	EP93X444	MP112 CONTROL CIRCUIT BOARD
	★ EP41X129	RELAY
	EP93X417	REMOTE RECEIVER CIRCUIT BOARD
	EP62X165	REMOTE TRANSMITTER ASM
	EP34X41	SOCKET-IC100
	★ EP93X415	UHF/VHF TUNER

POWER SUPPLY INTERFACE BOARD (AC CHASSIS ONLY) EP93X421

RESISTORS

REF. NO.	PART NO	DESCRIPTION
R1	ES14X57	390 ohm, 5%, 1/2W, Carbon
★ R2	EP14X167	150 ohm, 5%, 1W, Metal Oxide
★ R3	EP14X151	3.3 ohm, 5%, 1W, Metal Oxide
R4	EP14X129	220 ohm, 5%, 1/2W, Carbon
R5	EP14X295	910 ohm, 5%, 1/2W, Carbon
★ R6	EP14X245	39 ohm, 5%, 1W, Metal Oxide
★ R11	EP14X86	8.2K ohm, 5%, 2W, Metal Oxide

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q1	ES15X125	NPN, Silicon
Q2	ES15X125	NPN, Silicon
Q3	ES15X125	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y2	EP16X36	Zener
Y3	EP57X4	Rectifier, Silicon
Y4	EP57X5	Rectifier, Silicon

COIL

REF. NO	PART NO.	DESCRIPTION
L1	EP36X144	CHOKE-27uh, 5%

LMP112 TUNER CONTROL MODULE (EP93X445) AND MP112 TUNER CONTROL MODULE (EP93X444)

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DISCRIPTION
X500	EP41X68	CRYSTAL-Filter
† IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X223	Microcomputer (LMP112 ONLY)
IC601	EP84X225	Microcomputer (MP112 ONLY)
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DISCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	DARLINGTON, NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DISCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	7.5V, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

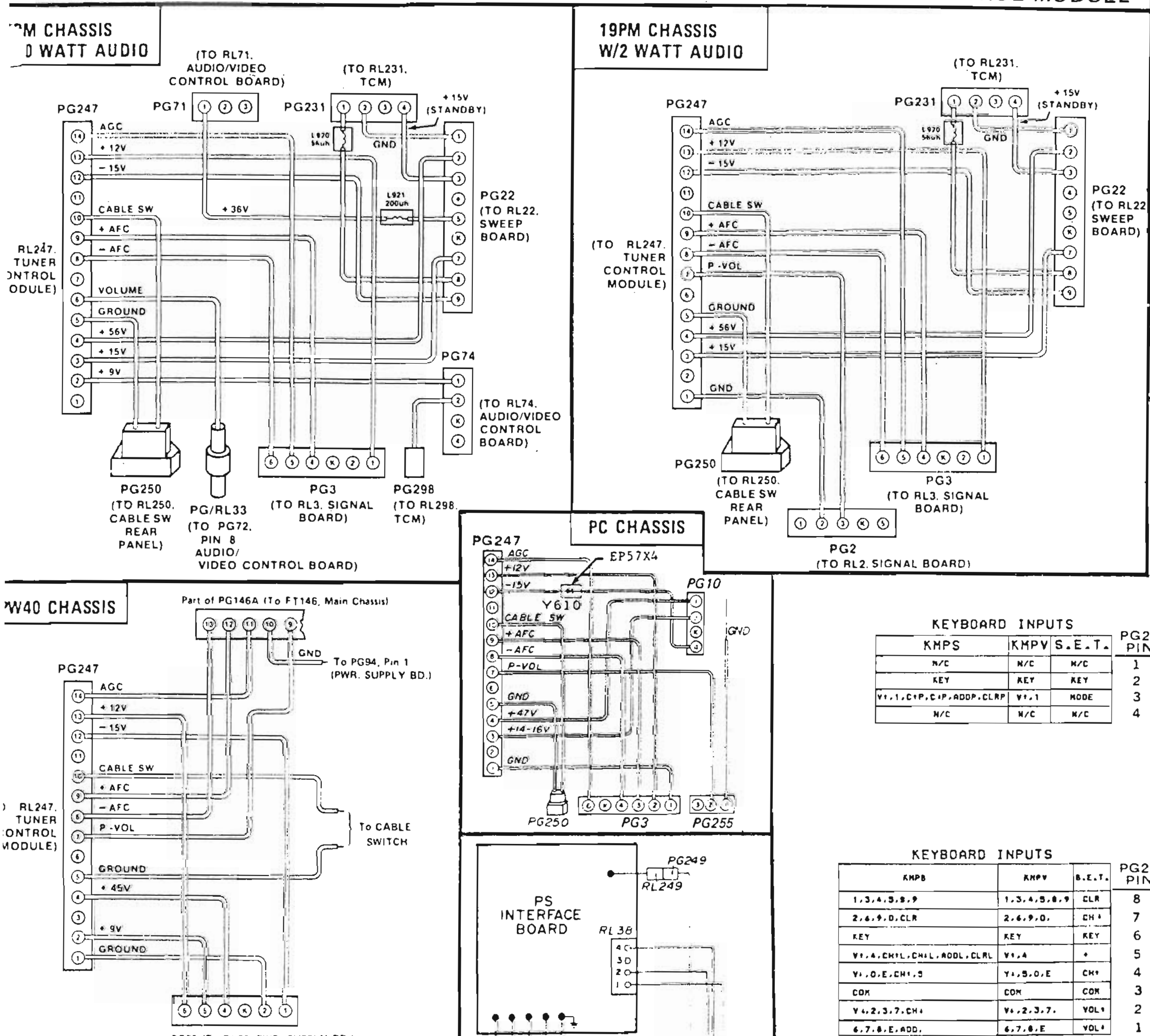
REF. NO	PART NO.	DISCRIPTION
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%

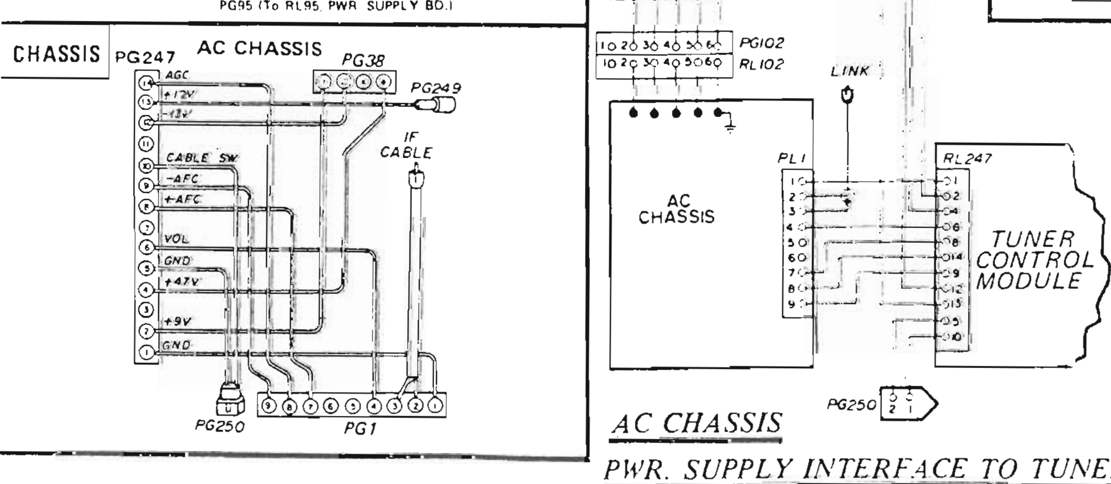
† IC100 9V REGULATOR USED IN PC & EM CHASSIS MODELS ONLY.

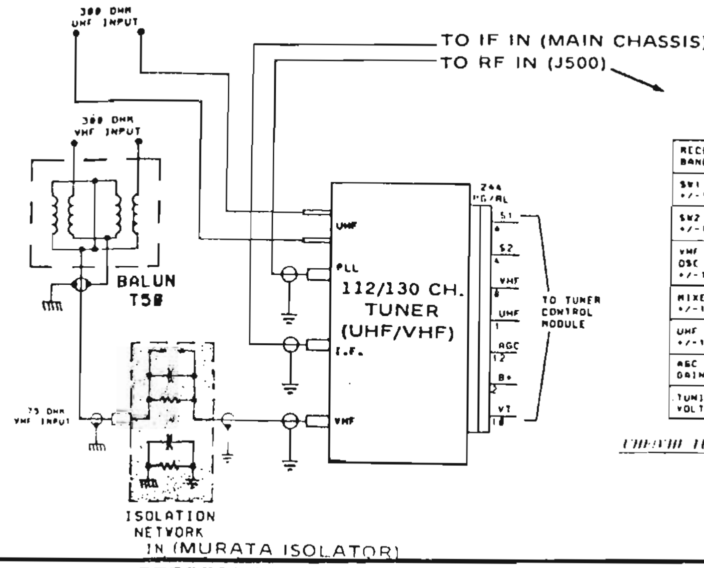
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

73E261853-2

M, PC, PW & AC CHASSIS INTERFACE CONNECTIONS TO LMP/MP–112/130 TUNER CONTROL MODULE







RECEIVING BAND	BAND I	BAND II	BAND III	BAND IV
SW1 +/-10%	-15V	-15V	+9V	-15V
SW2 +/-10%	-15V	+9V	+9V	+9V
VHF RF & OSC B+ +/-10%	+12V	+12V	+12V	0V
MIXER B+ +/-10%	+12V	+12V	+12V	+12V
UHF B+ +/-10%	0V	0V	0V	+12V
AGC @ MAX GAIN	0.0V	0.0V	0.0V	0.0V
TUNING VOLTAGE	05 - 29	05 - 29	05 - 29	05 - 29

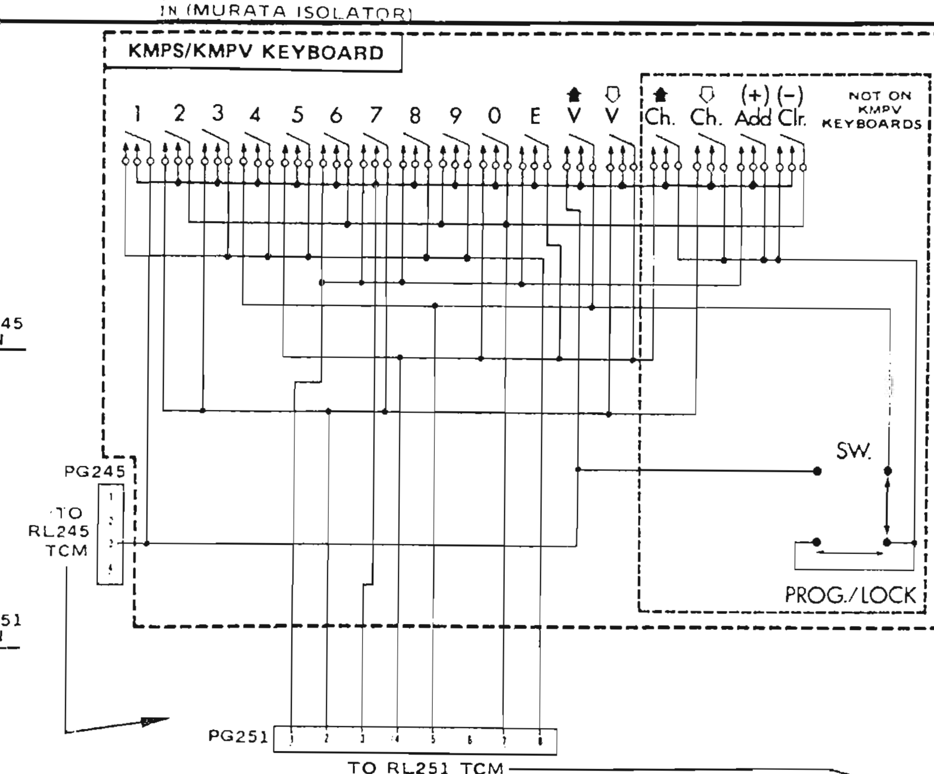
UHF/VHF TUNER "BANDSWITCHING VOLTAGE CHART"

NOTES

1. 112CHANNEL TCM ONLY NOT NEEDED ON 130 CHANNEL TCM.
2. SIGNAL WAVEFORMS SET ON, LOCKED ON CHANNEL.
3. OPTION CIRCUIT NOT INSTALLED ON SOME MODELS.
4. UNLESS OTHERWISE NOTED, ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS. ALL VALUES GREATER THAN 1 ARE IN PICO-FARADS.

† IC100 9V
PC & PM C

SET/KMPV/KMPS–112/130 TI

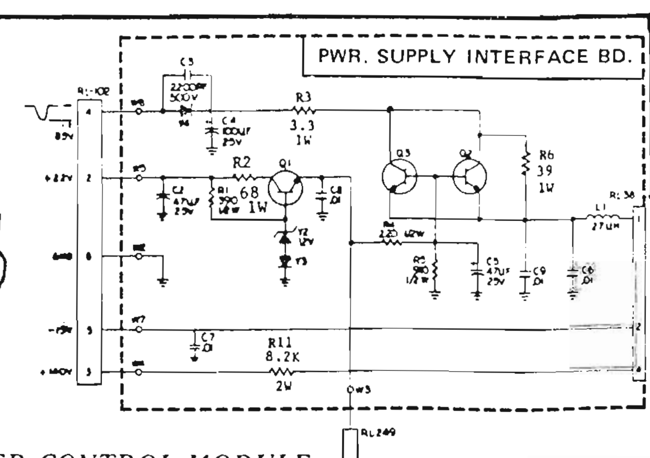


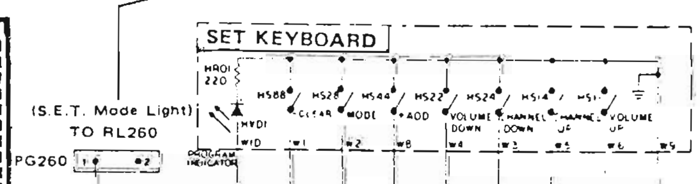
KEYBOARD INPUTS

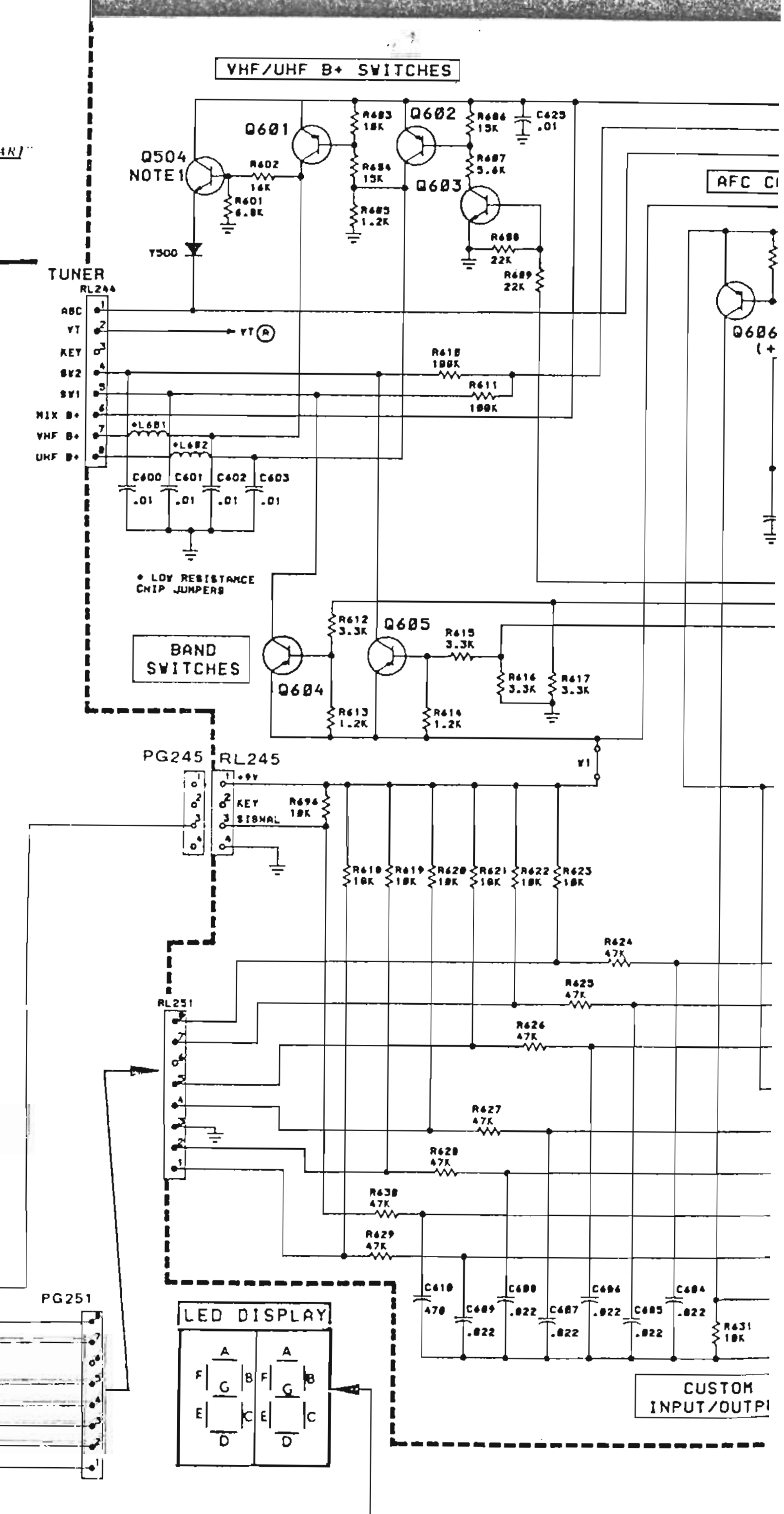
KMPS	KMPV	S.E.T.	PG245 PIN
N/C	N/C	N/C	1
KEY	KEY	KEY	2
V↑,1,C↑P,C↓P,ADDP,CLRP	V↑,1	MODE	3
N/C	N/C	N/C	4

KEYBOARD INPUTS

KMPS	KMPV	S.E.T.	PG251 PIN
1,3,4,5,8,9	1,3,4,5,8,9	CLR	8
2,6,9,0,CLR	2,6,9,0,	CH↓	7
KEY	KEY	KEY	6
V↑,4,CH↑L,CH↓L,ADDL,CLRL	V↑,4	+	5
V↓,0,E,CH↑,5	Y↓,5,0,E	CH↑	4
COM	COM	COM	3
V↓,2,3,7,CH↓	V↓,2,3,7,	VOL↓	2
6,7,8,E,ADD,	6,7,8,E	VOL↑	1







NOTES

1. 112CHANNEL TCM ONLY NOT NEEDED ON 130 CHANNEL TCM.
2. SIGNAL WAVEFORMS SET ON, LOCKED ON CHANNEL.
3. OPTION CIRCUIT NOT INSTALLED ON SOME MODELS.
4. UNLESS OTHERWISE NOTED, ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS, ALL VALUES GREATER THAN 1 ARE IN PICO-FARADS.

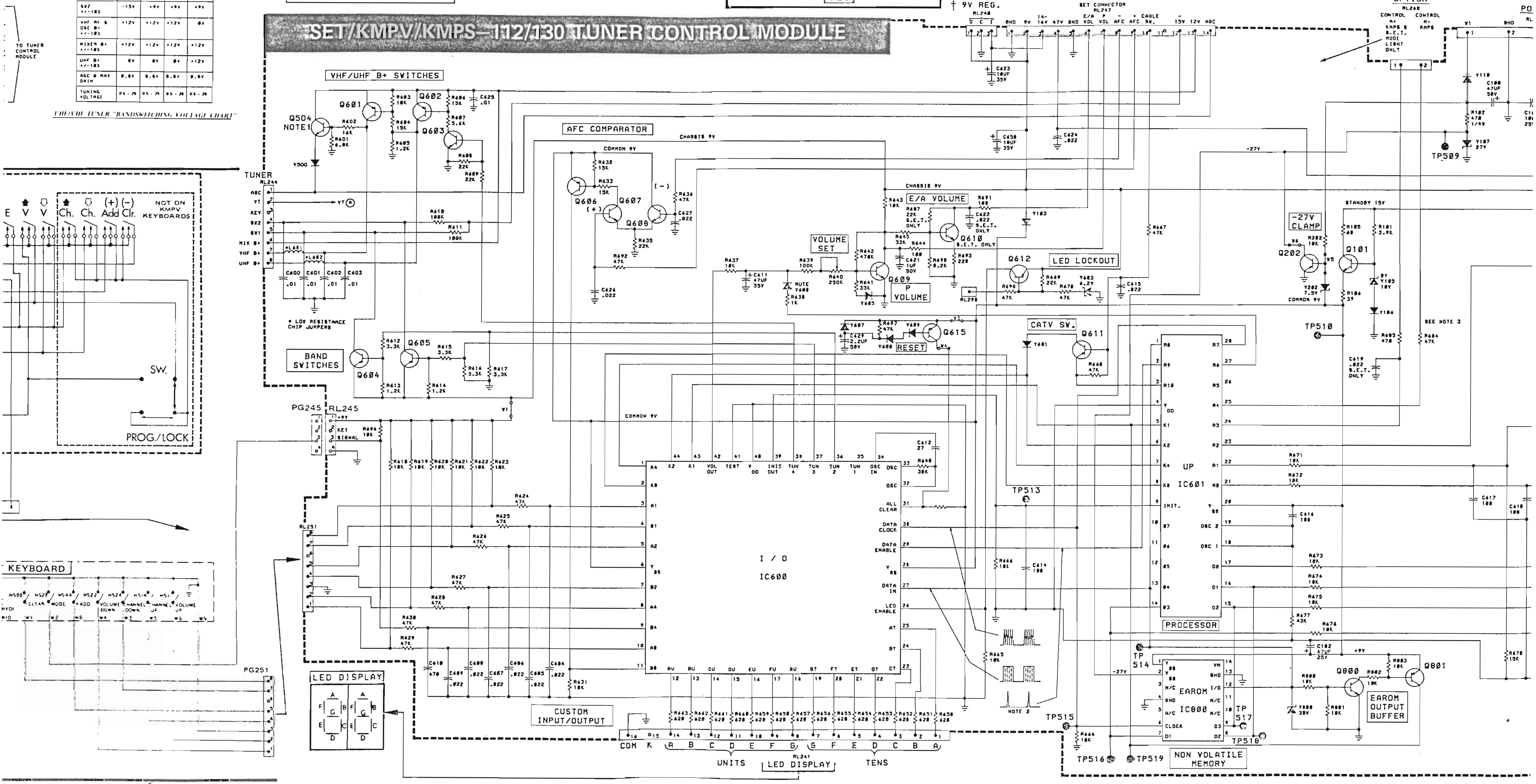
† IC100 9V REGULATOR USED IN PC & PM CHASSIS MODELS ONLY.

RECEIVING BAND	BAND I	BAND II	BAND III	BAND IV
SW1 +/-10%	-15V	-15V	+9V	-15V
SW2 +/-10%	-15V	+9V	+9V	+9V
VHF RF & OSC B+ +/-10%	+12V	+12V	+12V	0V
MIXER B+ +/-10%	+12V	+12V	+12V	+12V
UHF B+ +/-10%	0V	0V	0V	+12V
AGC @ MAX GAIN	8.0V	8.6V	8.6V	9.6V
TUNING VOLTAGE	05 - 29	05 - 29	05 - 29	05 - 29

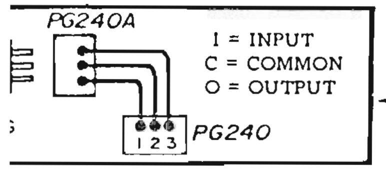
UHF/VHF TUNER "BANDSWITCHING VOLTAGE CHART"

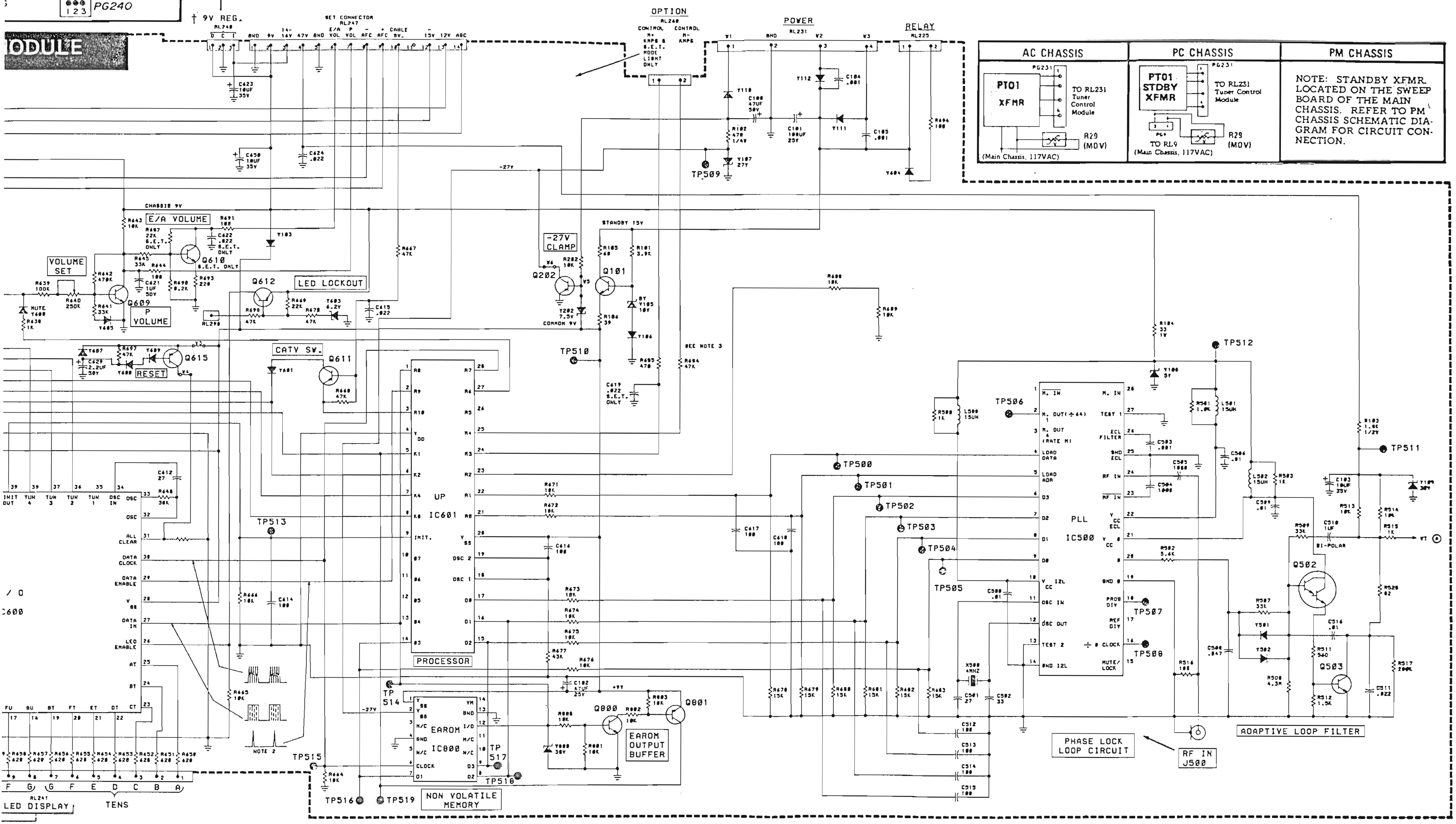
Product safety should ... schematic diagram des... of components which a... same safety character...

SET/KMPV/KMPS–112/130 TUNER CONTROL MODULE



Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.





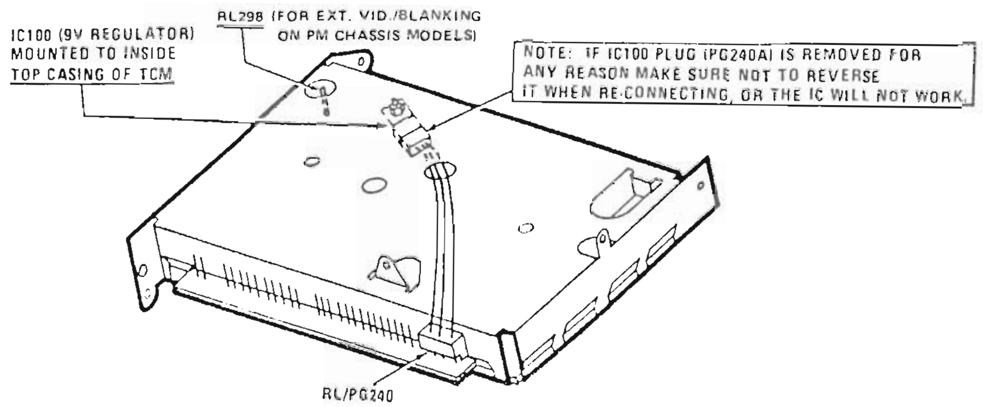
SET/KMPV/KMPS–112/130 "NON-REMOTE" ELECTRONIC TUNING SYSTEM

MINI-MANUAL

SERVICE INFORMATION FOR TECHNICIAN USE ONLY ACCESSIBLE FROM INSIDE TV SET ONLY

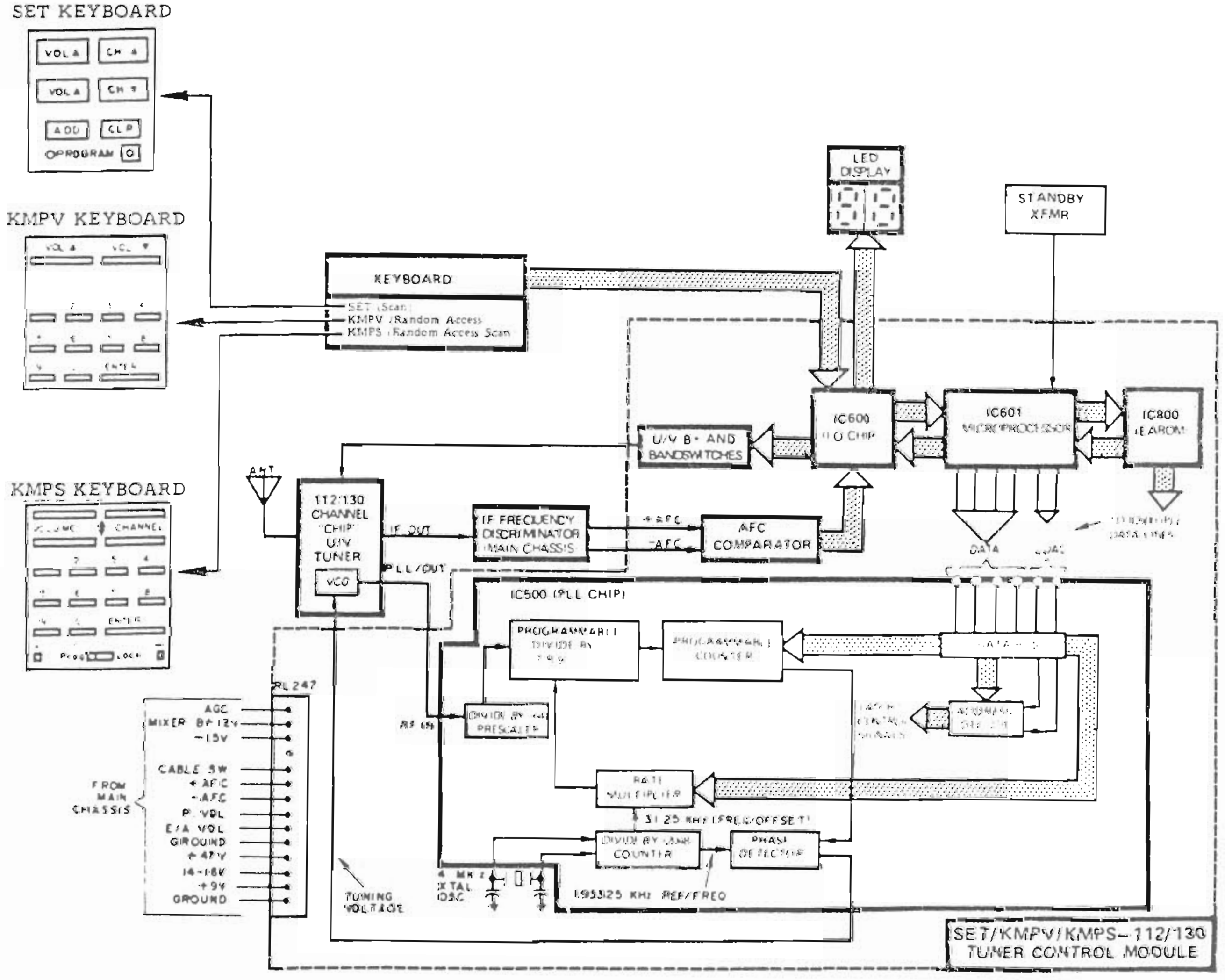
73E261761-5

SET/KMPV/KMPS–TUNER CONTROL MODULE WITH IC100 (9V REG.)



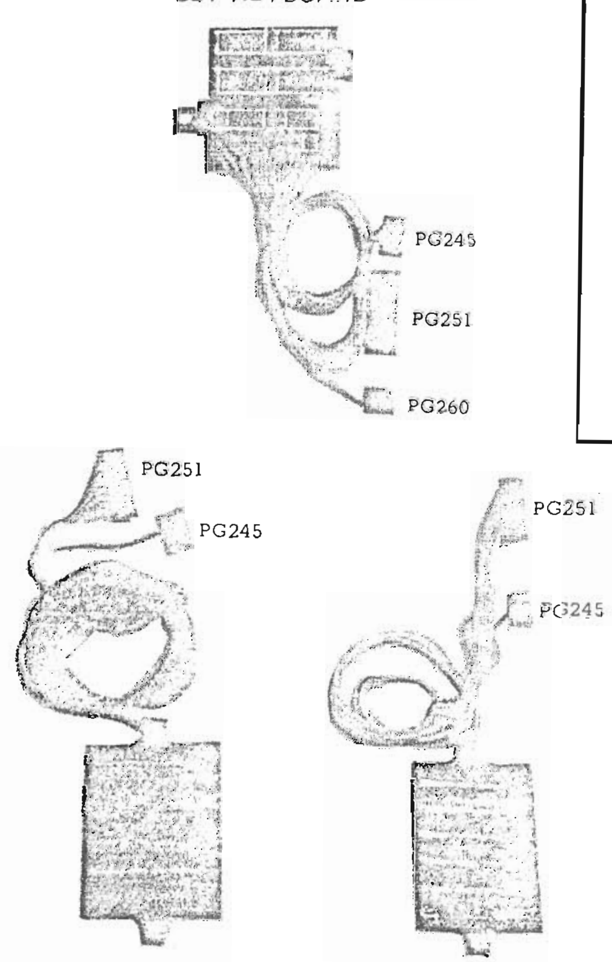
† IC100 9V REGULATOR USED IN PC & PM CHASSIS MODELS ONLY.

SET/KMPV/KMPS–112/130 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM



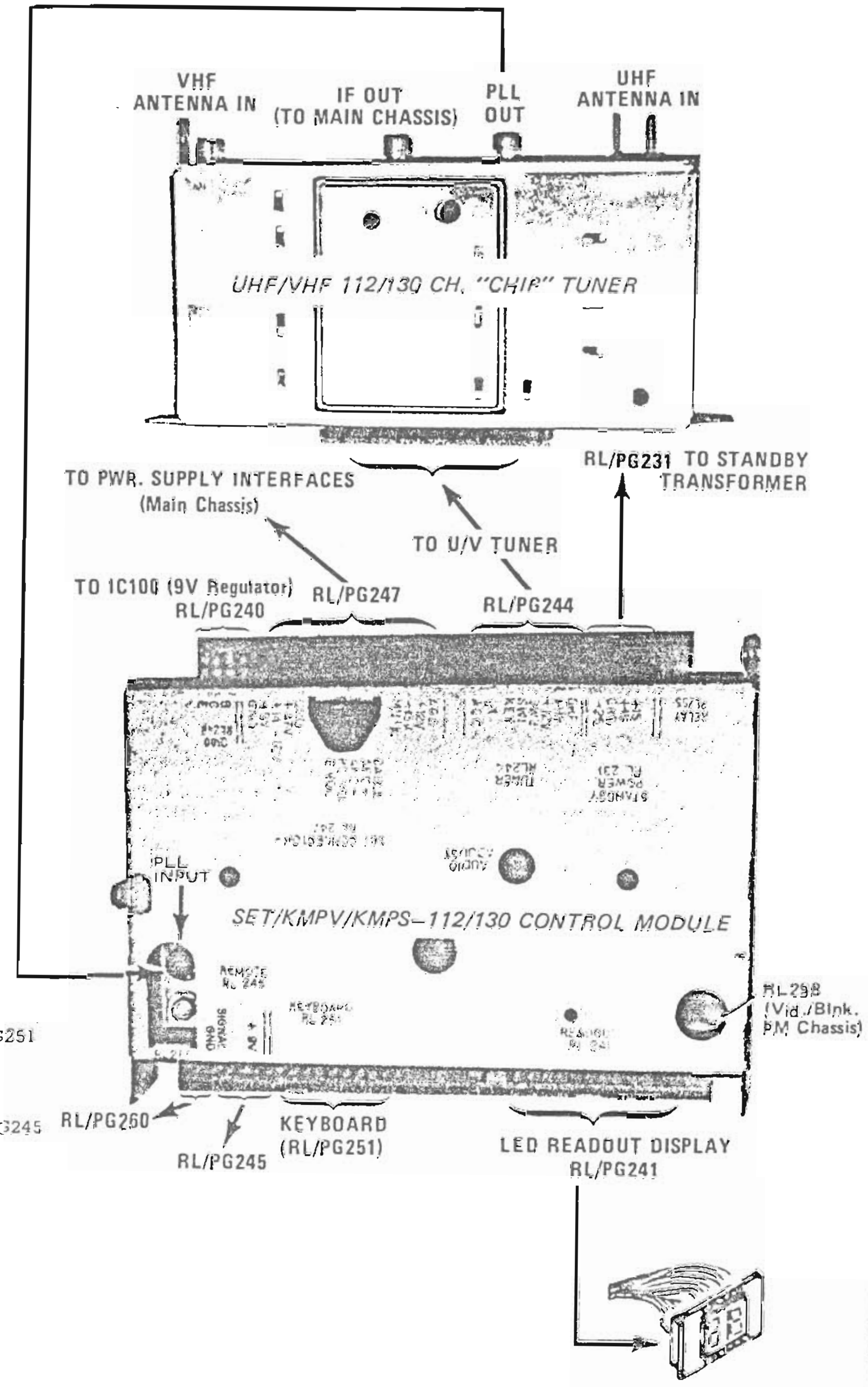
SET/KMPV/KMPS–112/130 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM

SET/KMPV/KMPS–KEYBOARDS



KMPV KEYBOARD *KMPS KEYBOARD*

SET/KMPV/KMPS–112/130 TUNING SYSTEM ASSEMBLIES



SET/KMPV/KMPS–112/130 TUNING SYSTEM ASSEMBLIES

SET/KMP

General.

Power Supp

1. Do not unp RL/PG247 included wi
2. Check RL-23 B minus (-
3. Check for They are fr

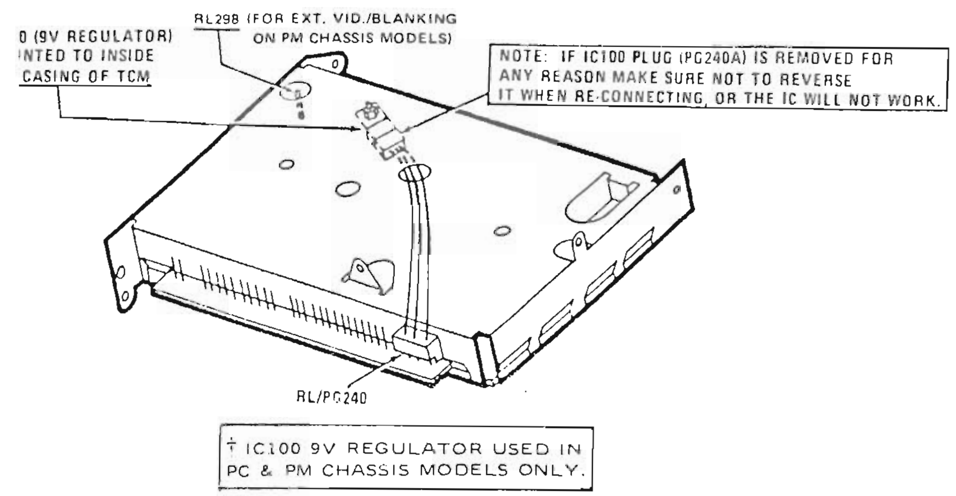
SET/I

SET Mode/Pr

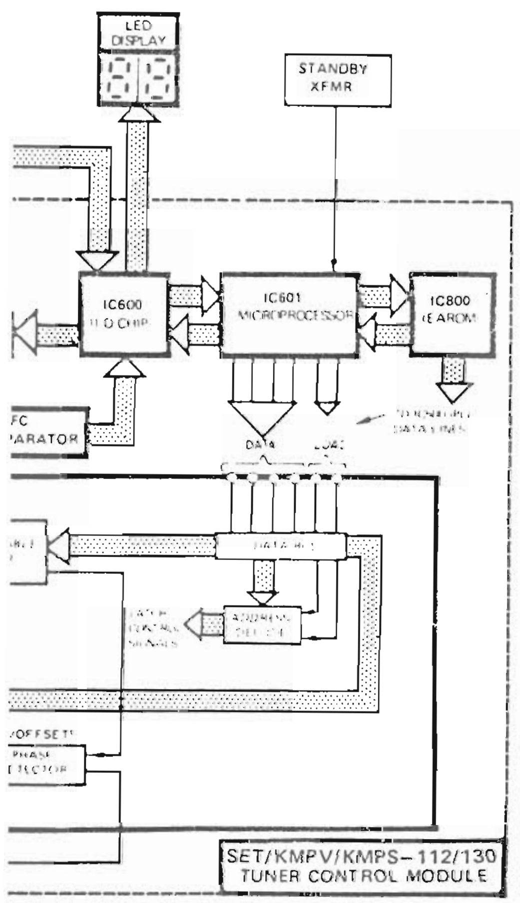
KEYB

SET/I

SET/KMPV/KMPS–TUNER CONTROL MODULE WITH IC100 (9V REG.)

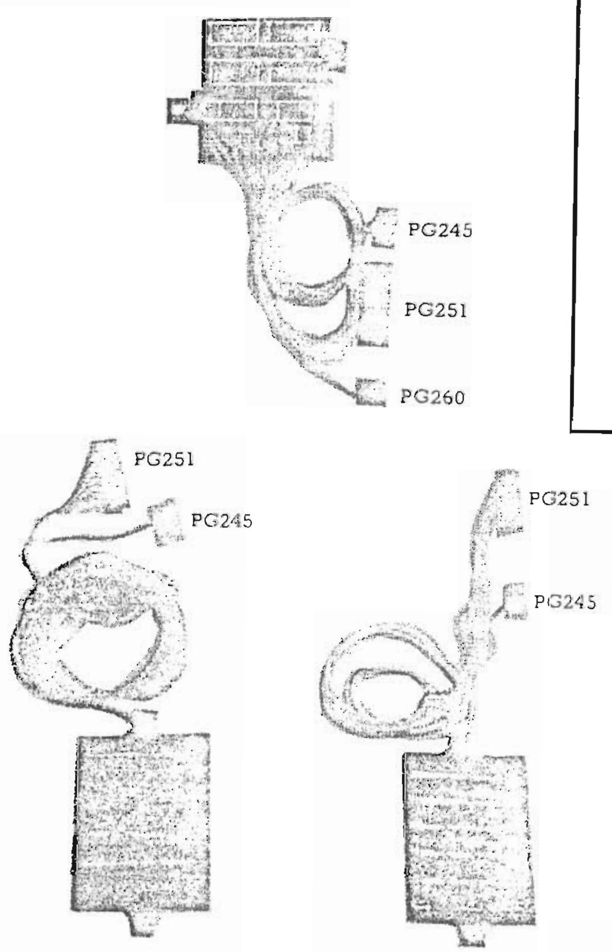


SYSTEM BLOCK DIAGRAM

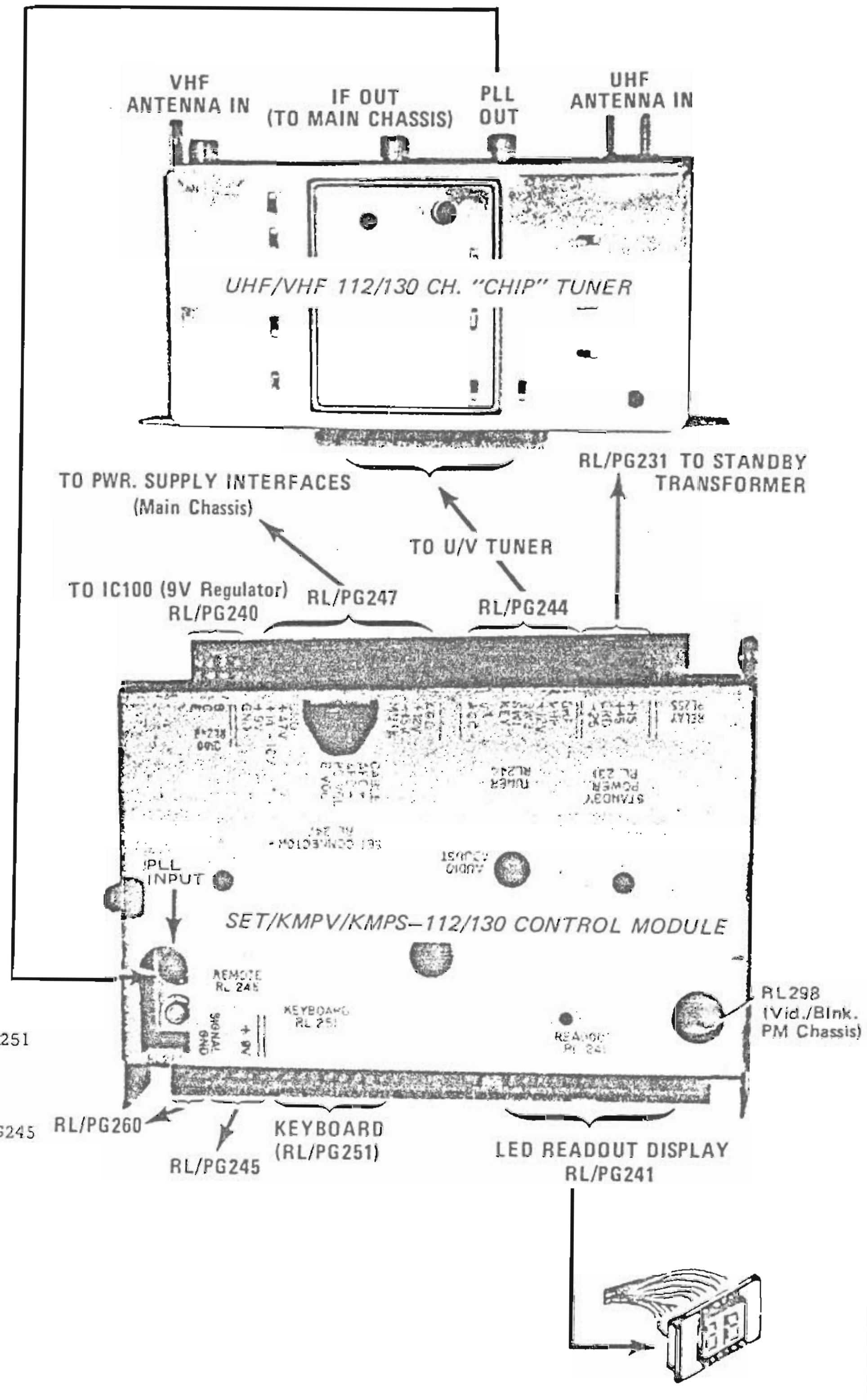


7 SYSTEM BLOCK DIAGRAM

SET/KMPV/KMPS–KEYBOARDS



SET/KMPV/KMPS–112/130 TUNING SYSTEM ASSEMBLIES



SET/KMPV/KMPS–112/130 TUNING SYSTEM ASSEMBLIES

SET/KMPV/KMPS–112/130 TUNING SYSTEM TROUBLESHOOTING INFO.

General. To help troubleshoot the 112/130 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247. (Check +15V only if IC regulator is included with tuner control module).
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (–) 27V supply to IC800, EAROM.
3. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Troubleshooting Order

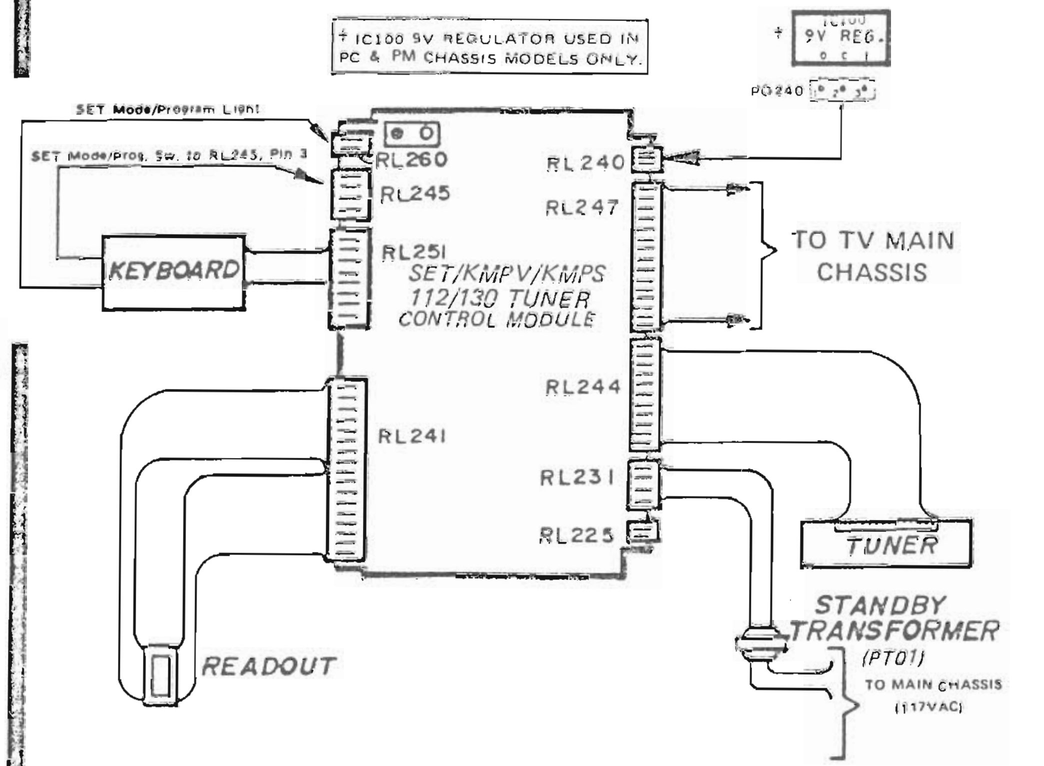
In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check:

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC800 (EAROM)
6. IC500 (PLL CHIP)

Categorized Symptoms

- Dark Raster (LED Readout Display OK)
  Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
  Check Bandswitch Transistors
- No Channel, No Keyboard or Remote operation with Relay forced ON (LMP/MP)
  Check Microprocessor (IC601)
- No Last Channel or Favorite Channel Memory during power failure.
  Check IC800
- Readout Display OK, but Channels Off-Frequency
  Check Bandswitch voltage, if OK, check IC500 (PLL Chip).

SET/KMPV/KMPS–112/130 CONTROL MODULE PLUG LOCATIONS



SET/KMPV/KMPS–112/130 CONTROL MODULE PLUG LOCATIONS

SET/KMPV/KMPS–112/130 ELECTRONIC TUNING SYSTEM REPLACEMENT PARTS LIST

SET–112/130 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L920	EP36X33	CHOKE-56uh, 5% (19" & 25" PM ONLY)
L921	EP36X48	CHOKE-200uh, 5% (25" PM ONLY)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	SEE MODEL PAGE	CHANNEL NUMBER READOUT DISPLAY-Green
	SEE MODEL PAGE	KEYBOARD-Vol., & Channel Select
	EP93X473	SET112 TUNER CONTROL CIRCUIT BOARD
	EP93X466	SET130 TUNER CONTROL CIRCUIT BOARD
	* EP93X415	UHF/VHF TUNER (112 Channel)
	* EP93X502	UHF/VHF TUNER (130 Channel)

KMPV–112 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L920	EP36X33	CHOKE-56uh, 5% (19" & 25" PM ONLY)
L921	EP36X48	CHOKE-200uh, 5% (25" PM ONLY)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	SEE MODEL PAGE	CHANNEL NUMBER READOUT DISPLAY-Green
	SEE MODEL PAGE	KEYBOARD-On/Off, Vol., & Channel Select
	EP93X474	KMPV112 TUNER CONTROL CIRCUIT BOARD
	* EP93X415	UHF/VHF TUNER (112 Channel)

KMPS–130 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARSISTOR- "MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 Terminal, 9V Regulator

COIL & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L920	EP36X33	CHOKE-56uh, 5% (19" & 25" PM ONLY)
L921	EP36X48	CHOKE-200uh, 5% (25" PM ONLY)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	SEE MODEL PAGE	CHANNEL NUMBER READOUT DISPLAY-Green
	SEE MODEL PAGE	KEYBOARD-Vol., & Channel Select
	EP93X467	KMPS130 TUNER CONTROL CIRCUIT BOARD
	* EP93X502	UHF/VHF TUNER

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microproessor

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O) . or the LED display unit

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL ,IC500 and associated circuitry.

Check the IF per Main Chassis troubleshooting chart IF OK, PROCEED TO ELECTRONIC TUNING TROUBLESHOOTING INFO. FOR POSSIBLE SOLUTION TO THE PROBLEM

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244,Pin 2, while entering the following Channels. CH 1=28V, 8=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL,IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

POWER SUPPLY INTERFACE BOARD

(AC CHASSIS ONLY)

EP93X457

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1	ES14X37	390 ohm, 5%, 1/2W, Carbon
★ R2	EP14X366	68 Ohm, 5%, 1W, Metal Oxide
★ R3	EP14X151	3.3 ohm, 5%, 1W, Metal Oxide
R4	EP14X129	220 ohm, 5%, 1/2W, Carbon
R5	EP14X295	910 ohm, 5%, 1/2W, Carbon
★ R6	EP14X245	39 ohm, 5%, 1W, Metal Oxide
★ R11	EP14X86	8.2K ohm, 5%, 2W, Metal Oxide

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q1	ES15X125	NPN, Silicon
Q2	ES15X125	NPN, Silicon
Q3	ES15X125	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y2	EP16X36	Zener
Y3	EP57X4	Rectifier, Silicon
Y4	EP57X5	Rectifier, Silicon

COIL

REF. NO	PART NO	DESCRIPTION
L1	EP36X144	CHOKE-27uh, 5%

*TUNER CONTROL MODULES SET112 (EP93X473), SET130 (EP93X466), KMPV112 (EP93X474), KMPS130 (EP93X467)

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
† IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X236	SET112 Control (Microprocessor)
IC601	EP84X236	SET130 Control (Microprocessor)
IC601	EP84X237	KMPV112 Control (Microprocessor)
IC601	EP84X237	KMPS130 Control (Microprocessor)
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
~~Q504~~	~~EP15X87~~	~~VCO Clamp, NPN, Silicon~~ (Q504 Not Used On 130 TCM's)
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q80[illegible]	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X153	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 9.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS & TRANSFORMER

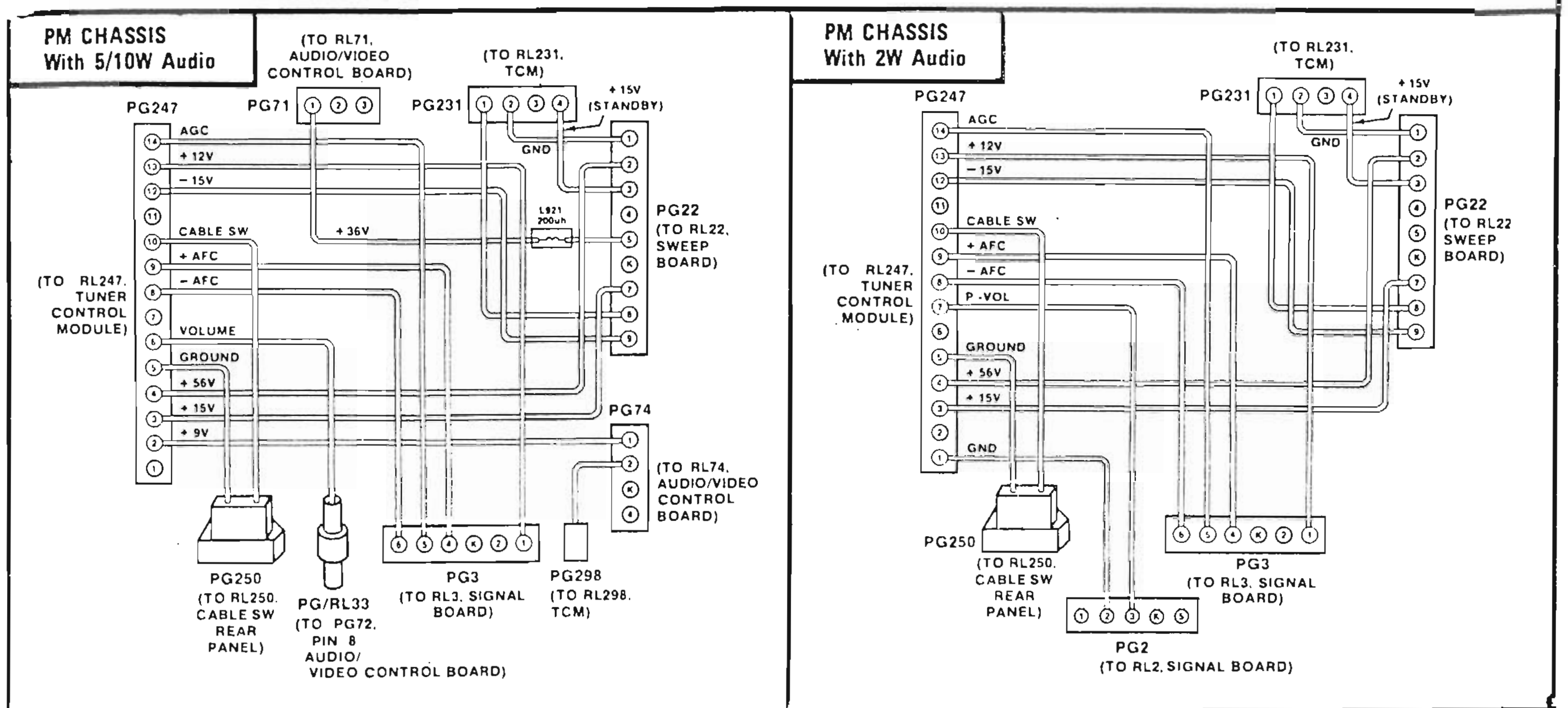
REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Qzt. Filter
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%

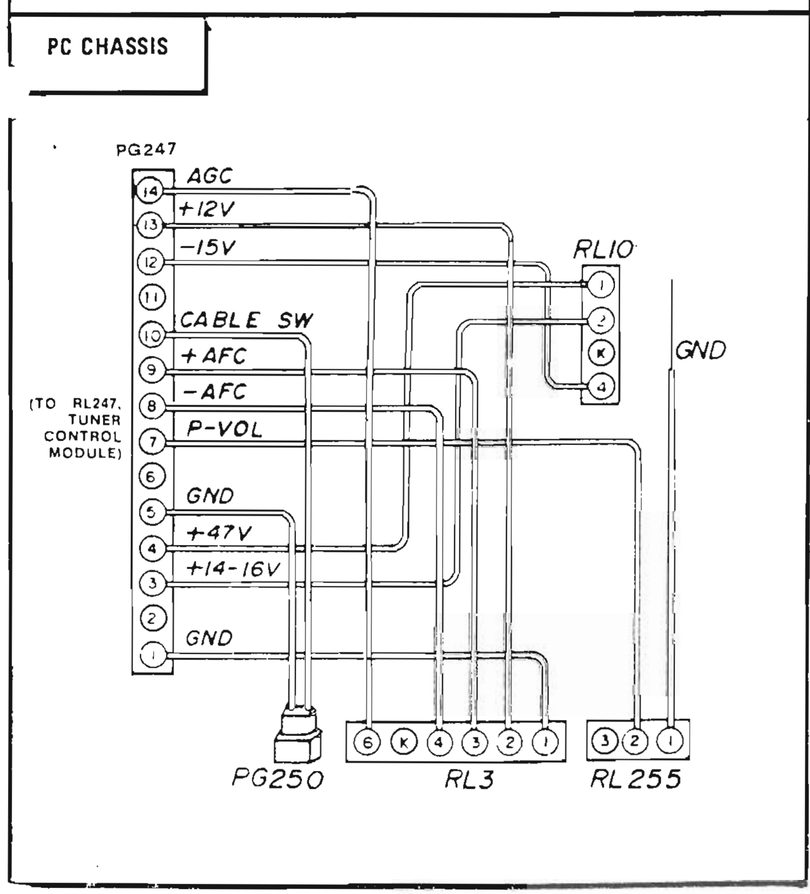
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

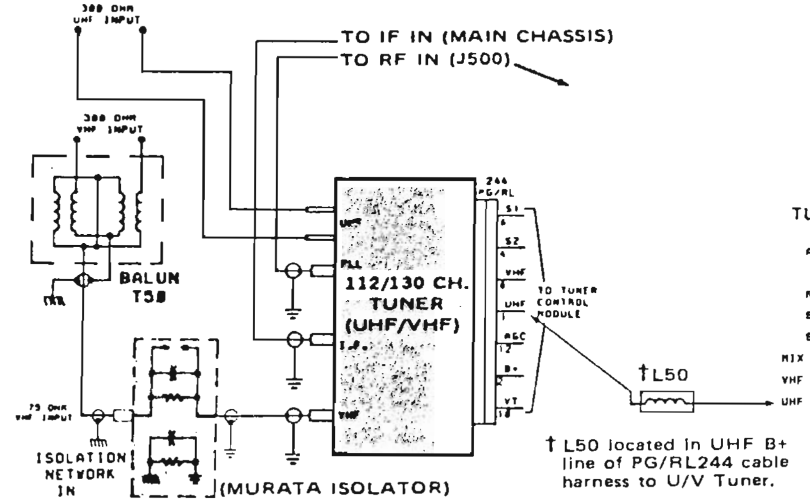
73E261761–5

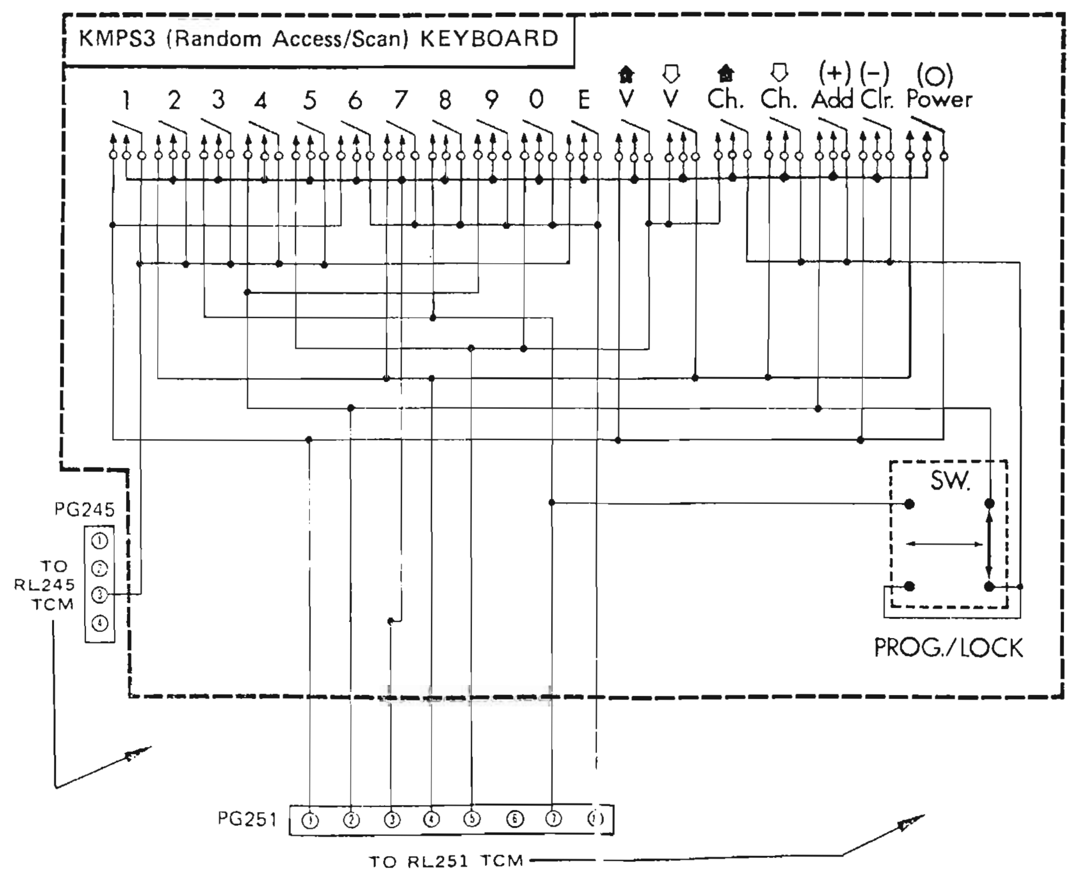
KMPS3–112/130 ELECTRONIC TUNING SYSTEM

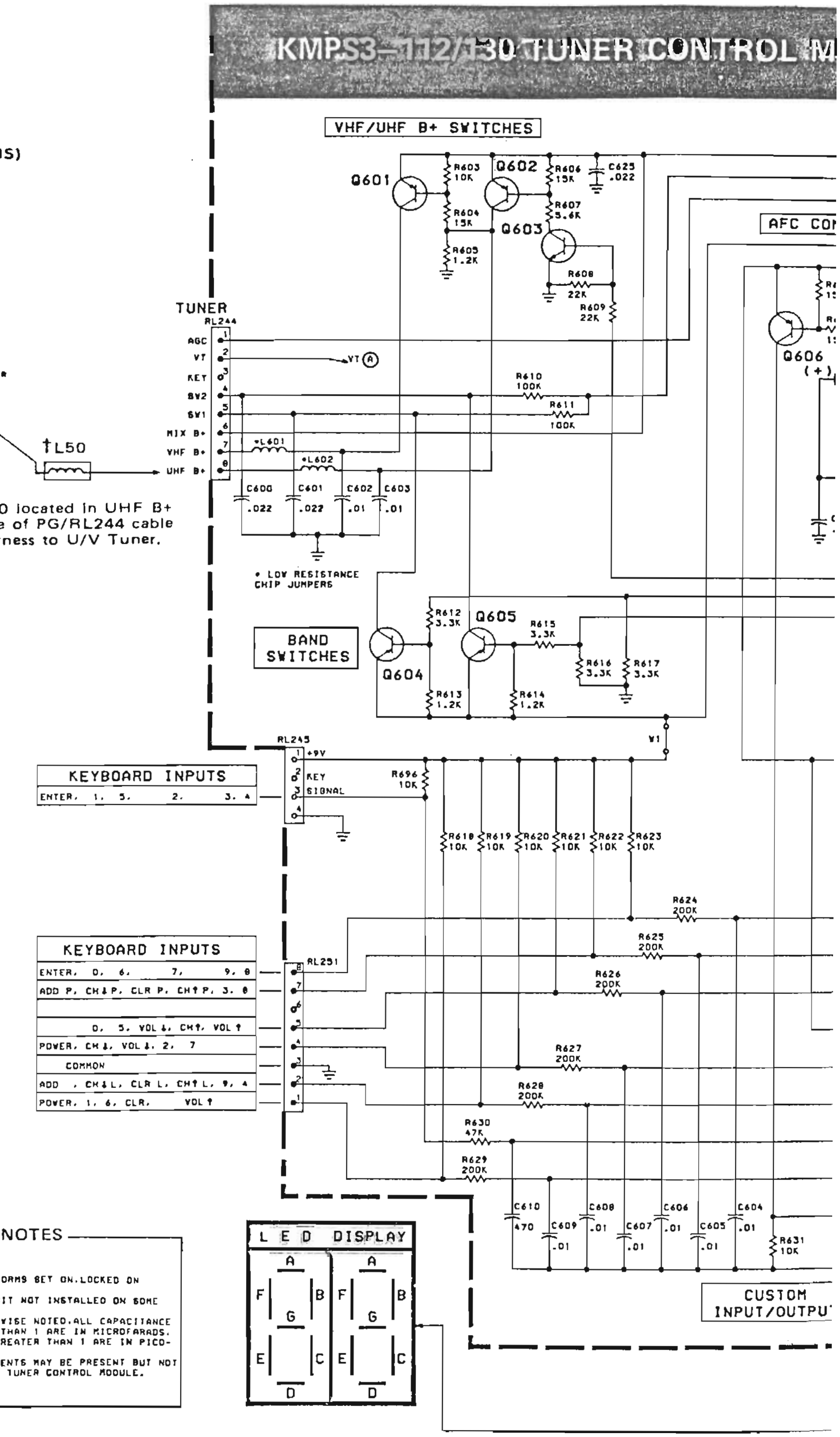
PM & PC CHASSIS INTERFACE CONNECTIONS TO TUNER CONTROL MODULE











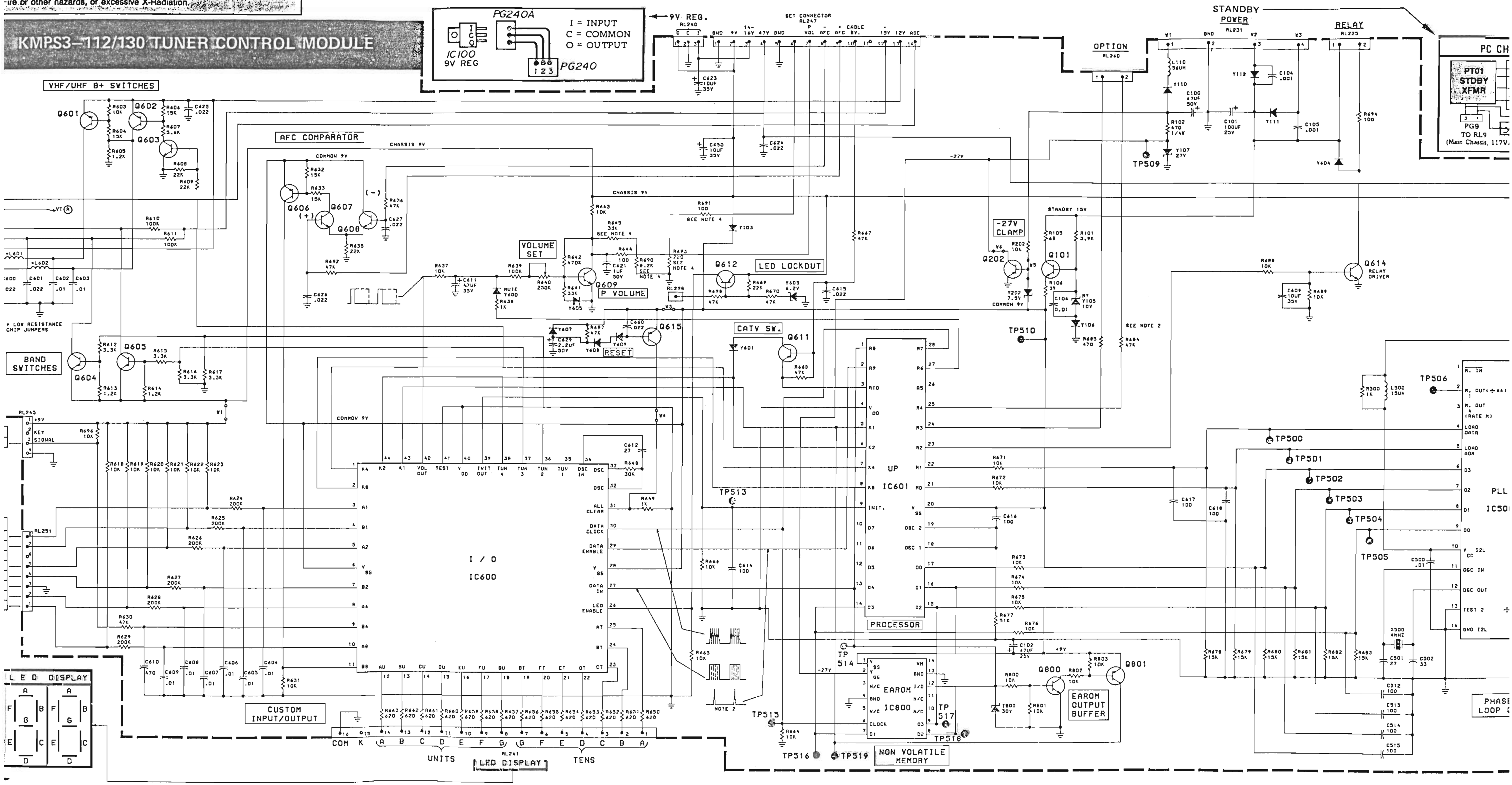
NOTES

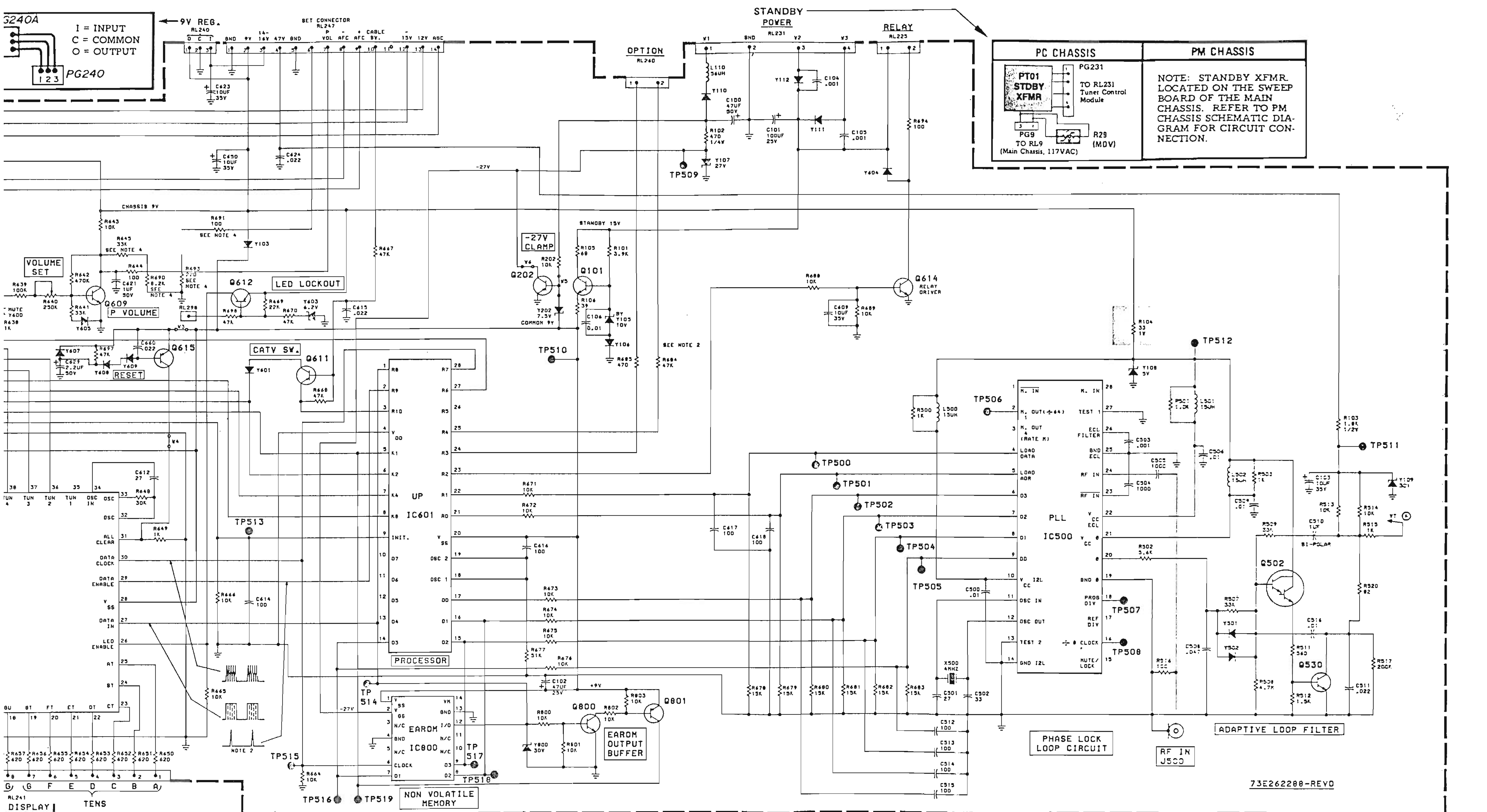
NOTES

1. SIGNAL WAVEFORMS SET ON.LOCKED ON CHANNEL.
2. OPTION CIRCUIT NOT INSTALLED ON SOME MODELS.
3. UNLESS OTHERWISE NOTED,ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS. ALL VALUES GREATER THAN 1 ARE IN PICO-FARADS.
4. THESE COMPONENTS MAY BE PRESENT BUT NOT USED IN THIS TUNER CONTROL MODULE.

ICE
...elver. The (*) beside a part in the parts list and the shaded areas of the
...ticularly recommended that exact cataloged parts be used for replacement
...matic diagram. Use of substitute replacement parts which do not have the
...Fire or other hazards, or excessive X-Radiation.

KMPS3-112/130 TUNER CONTROL MODULE




I = INPUT
C = COMMON
O = OUTPUT
PG240
9V REG.
STANDBY POWER
RELAY
OPTION
PC CHASSIS
PM CHASSIS
PT01 STDBY XFMR
TO RL231 Tuner Control Module
PG9 TO RL9 (Main Chassis, 117VAC)
R29 (MOV)
NOTE: STANDBY XFMR. LOCATED ON THE SWEEP BOARD OF THE MAIN CHASSIS. REFER TO PM CHASSIS SCHEMATIC DIAGRAM FOR CIRCUIT CONNECTION.
VOLUME SET
P VOLUME
LED LOCKOUT
-27V CLAMP
RELAY DRIVER
CATV SW.
RESET
UP IC601
PROCESSOR
PLL IC500
EAROM IC800
NON VOLATILE MEMORY
EAROM OUTPUT BUFFER
PHASE LOCK LOOP CIRCUIT
ADAPTIVE LOOP FILTER
RF IN J500
DISPLAY
TENS
73E262288-REVO

KMPS3—112/130 "KEYBOARD/SCAN" ELECTRONIC TUNING SYSTEM

MINI-MANUAL

SERVICE INFORMATION FOR TECHNICIAN USE ONLY

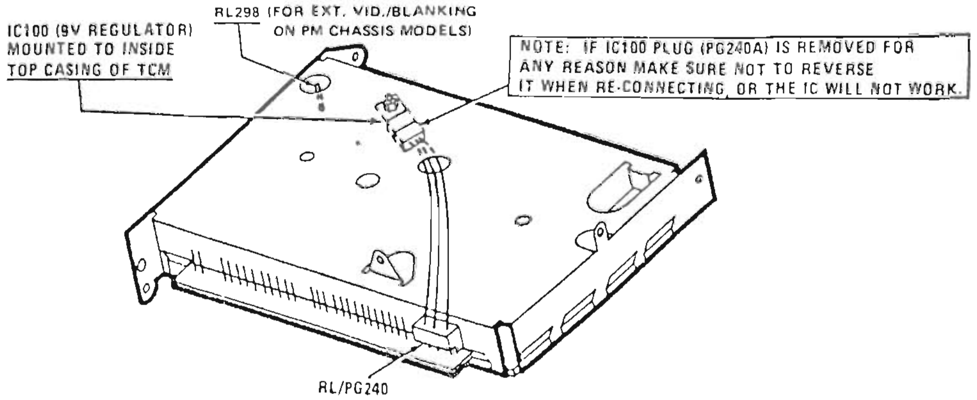
ACCESSIBLE FROM INSIDE TV SET ONLY

73E261761—7

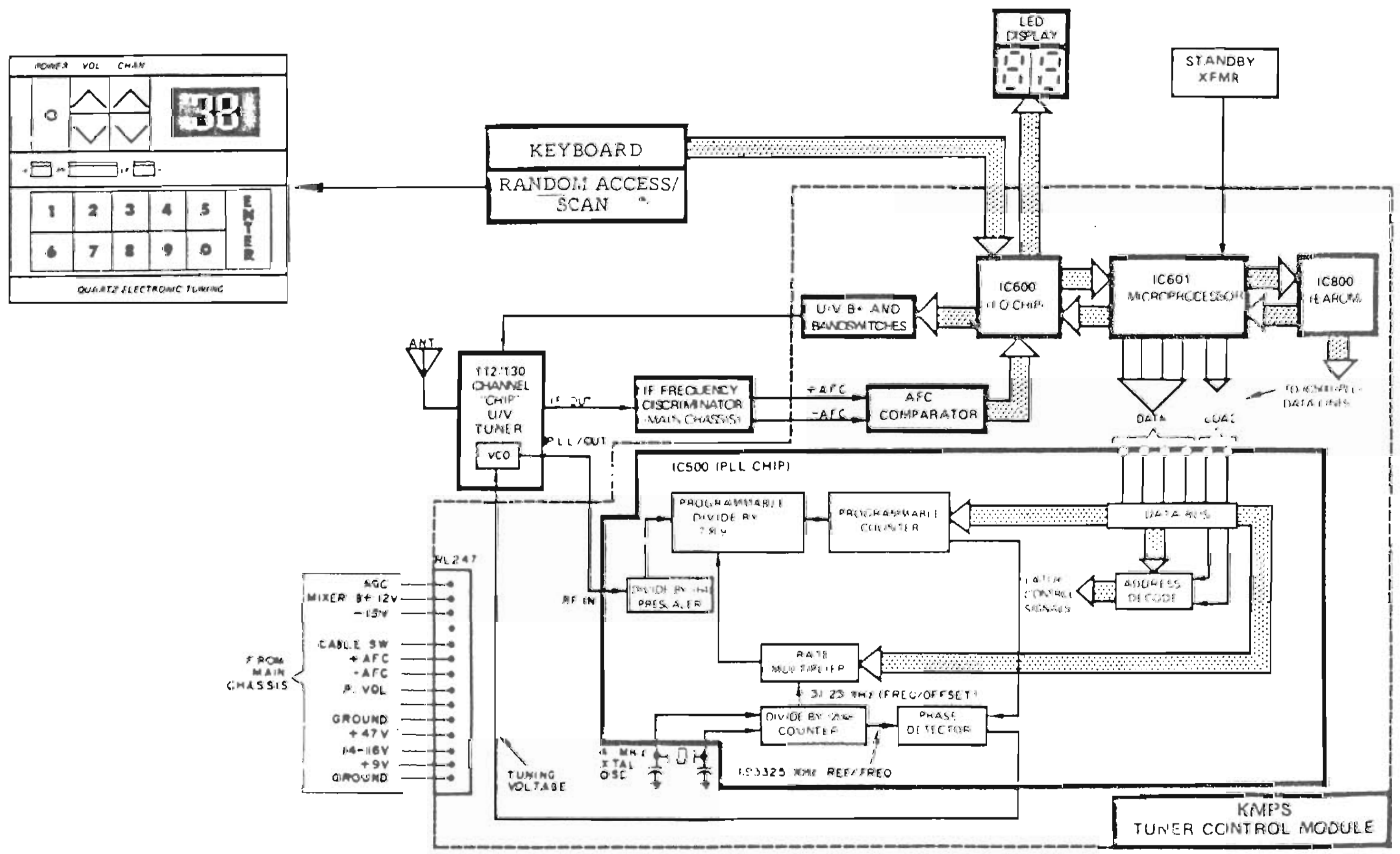
NOTICE TO TECHNICIAN:

THIS MINI—MANUAL IS CUSTOMER PROPERTY. PLEASE REPLACE IN SET WHEN SERVICING IS COMPLETED.

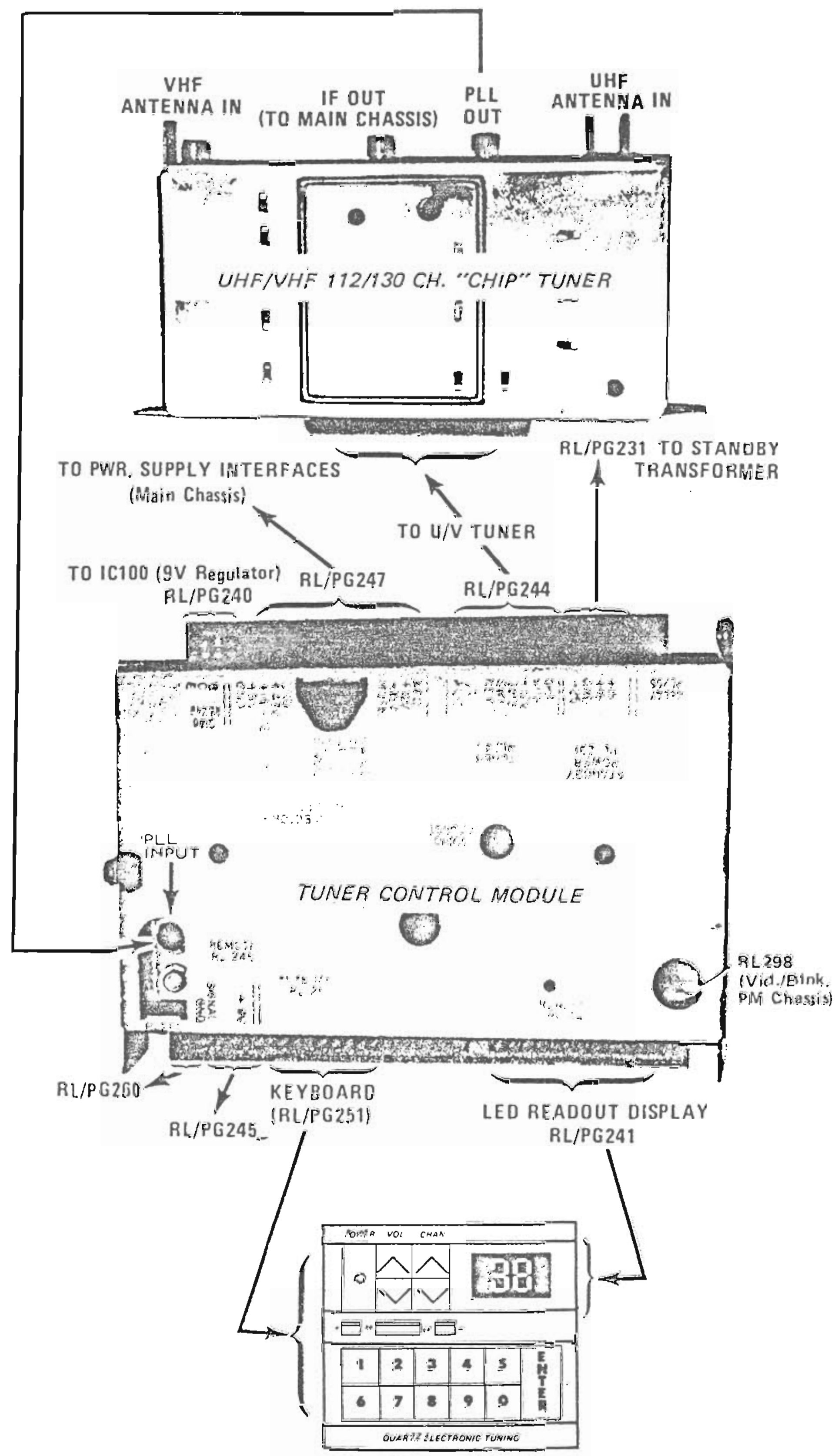
112/130 TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)



112/130 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM



112/130 TUNING SYSTEM COMPONENT ASSEMBLIES



112/130 TUNING SYSTEM TROUBLESHOOTING INFORMATION

General: To help troubleshoot the 112/130 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Preliminary
Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Power Supplies
1. Do not unplug, but do check all voltages at RL/PG247. Check +15V only if IC100 (9V Regulator) is included with tuner control module).
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (−) 27V supply to IC800, (EAROM).

Troubleshooting Order
In order of probability after checking power supplies, wires, and cable switch, check:

1. Tuner/Bandswitch transistors (Q601-Q605)
2. IC601 (Microprocessor)
3. Keyboard
4. IC600 (I/O)
5. IC800 (EAROM)
6. IC500 (PLL)

Categorized Symptoms

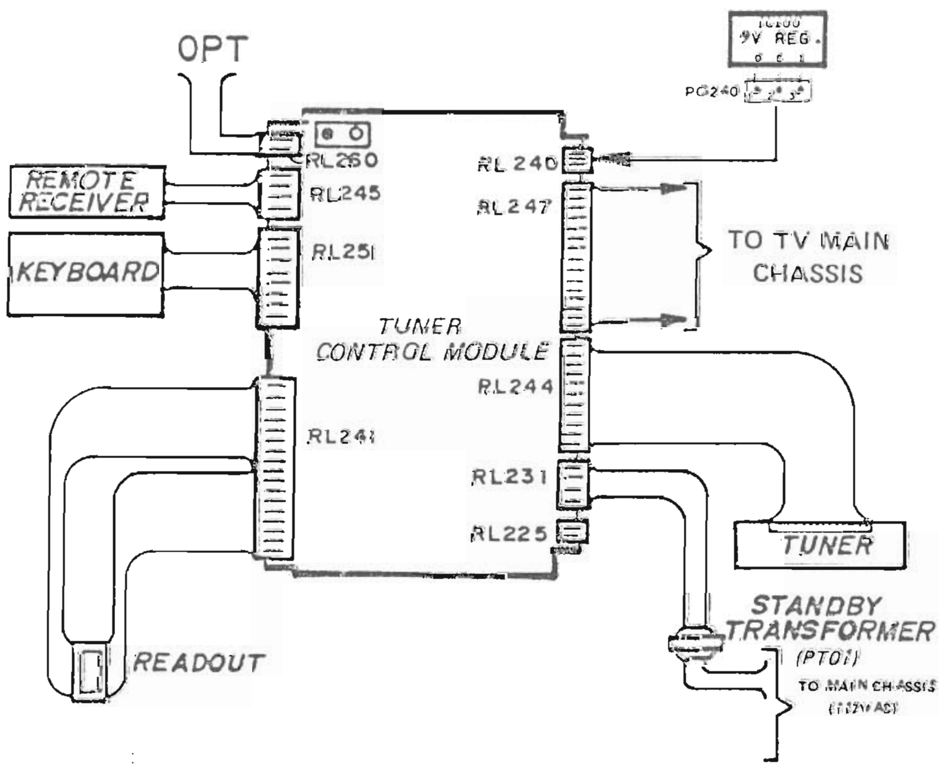
- Dark Raster (LED Display OK)
  Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
  Check Bandswitch Transistors (Q601-Q605)
- No Channel, No Keyboard operation
  Check IC601 (Microprocessor)
- No Last Channel or Favorite Channel Memory during power failure.
  Check IC800 (EAROM)
- LED Display OK (Channels Off-Frequency)
  Check Bandswitch voltages, if OK, check IC 500 (PLL Chip).
- No Picture (Channel LED Display Incorrect)
  Check Keyboard, IC600 (I/O) and IC601 (uP)
- Picture OK (Channel LED Display Incorrect)
  Check IC600 (I/O), IC601(uP) and LED Display
- No Picture (Channel LED Display OK)
  Check * U/V Tuner, Video IF (Main Chassis), Standby Power Supply, IC601 (uP) IC500 (PLL) and associated circuitry.
- * Before proceeding:
  Check the Main Chassis Video IF. If OK, proceed to U/V Tuner Check below.

U/V TUNER CHECK: (No Picture, Channel LED Display OK)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels; CH. 1 (28V), 6 (20V), 13 (19V), 33 (6.5V) and 82 (26V). The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28VDC at RL244, Pin 2) and connect end of a potentiometer (10K−15K) to the tuning voltage terminal (yellow wire). Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective (replace U/V Tuner).

If a station can be tuned in with the potentiometer, the problem could be the microprocessor (IC601), or the PLL (IC500).

112/130 TUNER CONTROL MODULE PLUG LOCATIONS



KMPS3–112/130 ELECTRONIC TUNING SYSTEM (PARTIAL) REPLACEMENT PART

KMPS3-112/130 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

REF. NO.	PART NO	DESCRIPTION
L50	ES36X82	CHOKE 220uh 10%
L921	EP36X48	CHOKE-200uh 5% (PM Only)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X96	CABLE-Coaxial 7" W/Phono Plugs
	SEE MODEL PAGE	CHANNEL NUMBER READOUT DISPLAY-Green
RL2	EP8X90	CONNECTOR-3 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL51	EP8X43	CONNECTOR-2 Pins
RL244	EP8X91	CONNECTOR-9 Pos.
PG250	EP8X43	CONNECTOR-2 Pins
	SEE MODEL PAGE	KEYBOARD-Vol., & Channel Select
	EP93X529	KMPS3-112 TUNER CONTROL CIRCUIT BOARD
	EP93X530	KMPS3-130 TUNER CONTROL CIRCUIT BOARD
	EP34X41	SOCKET-IC100
	* EP93X502	UHF/VHF TUNER (KMPS3-130)
	* EP93X539	UHF/VHF TUNER (KMPS3-112)

KMPS3-112 TUNER CONTROL CIRCUIT BOARD

EP93X529

KMPS3-130 TUNER CONTROL CIRCUIT BOARD

EP93X530

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X230	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X245	KMPS130 CONTROL
IC800	EP84X224	EAROM (KMPS3-112)
IC800	EP84X245	EAROM (KMPS3-130)

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
* R106	EP14X344	39 ohm, 5%, 1/8W, Carbon

TRANSISTORS

REF. NO.	PART NO.	DES
Q101	EP15X37	NPN, Silic
Q202	EP15X48	PNP, Silic
Q502	EP15X109	NPN, Silic
Q503	EP15X87	NPN, Silic
Q601	EP15X225	PNP, Silic
Q602	EP15X225	PNP, Silic
Q603	EP15X87	NPN, Silic
Q604	EP15X48	PNP, Silic
Q605	EP15X48	PNP, Silic
Q606	EP15X48	PNP, Silic
Q607	EP15X88	NPN, Silic
Q608	EP15X88	NPN, Silic
Q609	EP15X88	NPN, Silic
Q610	EP15X88	NPN, Silic
Q611	EP15X48	PNP, Silic
Q612	EP15X48	PNP, Silic
Q614	EP15X87	NPN, Silic
Q615	EP15X48	PNP, Silic
Q800	EP15X87	NPN, Silic
Q801	EP15X48	PNP, Silic

DIODES

REF. NO.	PART NO.	DES
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESC
L110	EP36X33	CHOKE-33uh,
L500	EP36X136	CHOKE-15uh,
L501	EP36X136	CHOKE-15uh,
L502	EP36X136	CHOKE-15uh,
X500	EP41X58	CRYSTAL-Gat

MISCELLANEOUS

	PART NO.	DESC
	EP34X41	SOCKET-IC10

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and th schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact catalogue parts be of components which are designated by a (*) in the parts list and the shaded areas in the schematic diagram. Use of substitute replacement parts same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

TROUBLESHOOTING INFORMATION

Symptoms

r (LED Display OK)
' Tuner

ter (UHF or VHF only, VHF Hi/Lo
nly)
dswitch Transistors (Q601-Q605)

!, No Keyboard operation
01 (Microprocessor)

Channel or Favorite Channel
ring power failure.
)0 (EAROM)

y OK (Channels Off-Frequency)
dswitch voltages, if OK, check
L Chip).

Channel LED Display Incorrect)
oard, IC600 (I/O) and IC601 (uP)

(Channel LED Display Incorrect)
)0 (I/O), IC601(uP) and LED

- No Picture (Channel LED Display OK) Check * U/V Tuner, Video IF (Main Chassis), Standby Power Supply, IC601 (uP) IC500 (PLL) and associated circuitry.

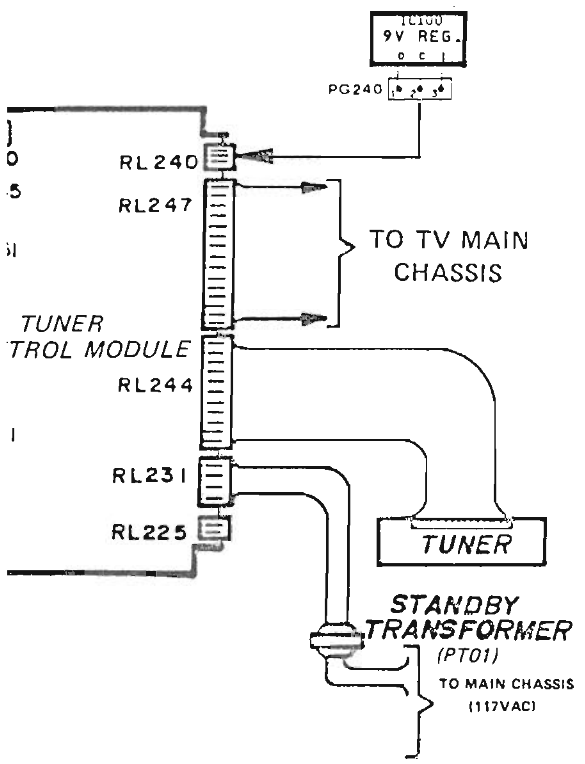
* Before proceeding: Check the Main Chassis Video IF. If OK, proceed to U/V Tuner Check below.

U/V TUNER CHECK: (No Picture, Channel LED Display OK)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels; CH. 1 (28V), 6 (20V), 13 (19V), 33 (6.5V) and 82 (26V). The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28VDC at RL244, Pin 2) and connect end of a potentiometer (10K – 15K) to the tuning voltage terminal (yellow wire). Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective (replace U/V Tuner).

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

TROL MODULE PLUG LOCATIONS



KMPS3-112/130 ELECTRONIC TUNING SYSTEM (PARTIAL) REPLACEMENT PARTS LIST

KMPS3-112/130 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L921	EP36X48	CHOKE-200uh, 5% (PM Only)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X96	CABLE-Coaxial 7" W/Phono Plugs
	SEE MODEL PAGE	CHANNEL NUMBER READOUT DISPLAY-Green
RL2	EP8X90	CONNECTOR-3 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL51	EP8X43	CONNECTOR-2 Pins
RL244	EP8X91	CONNECTOR-9 Pos.
PG250	EP8X43	CONNECTOR-2 Pins
	SEE MODEL PAGE	KEYBOARD-Vol., & Channel Select
	EP93X529	KMPS3-112 TUNER CONTROL CIRCUIT BOARD
	EP93X530	KMPS3-130 TUNER CONTROL CIRCUIT BOARD
	EP34X41	SOCKET-IC100
	* EP93X502	UHF/VHF TUNER (KMPS3-130)
	* EP93X539	UHF/VHF TUNER (KMPS3-112)

KMPS3-112 TUNER CONTROL CIRCUIT BOARD

EP93X529

KMPS3-130 TUNER CONTROL CIRCUIT BOARD

EP93X530

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X245	KMPS130 CONTROL
IC800	EP84X224	EAROM (KMPS3-112)
IC800	EP84X246	EAROM (KMPS3-130)

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
* R106	EP14X344	39 ohm, 5%, 1/8W, Carbon

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L110	EP36X33	CHOKE-5.6uh, 5%
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

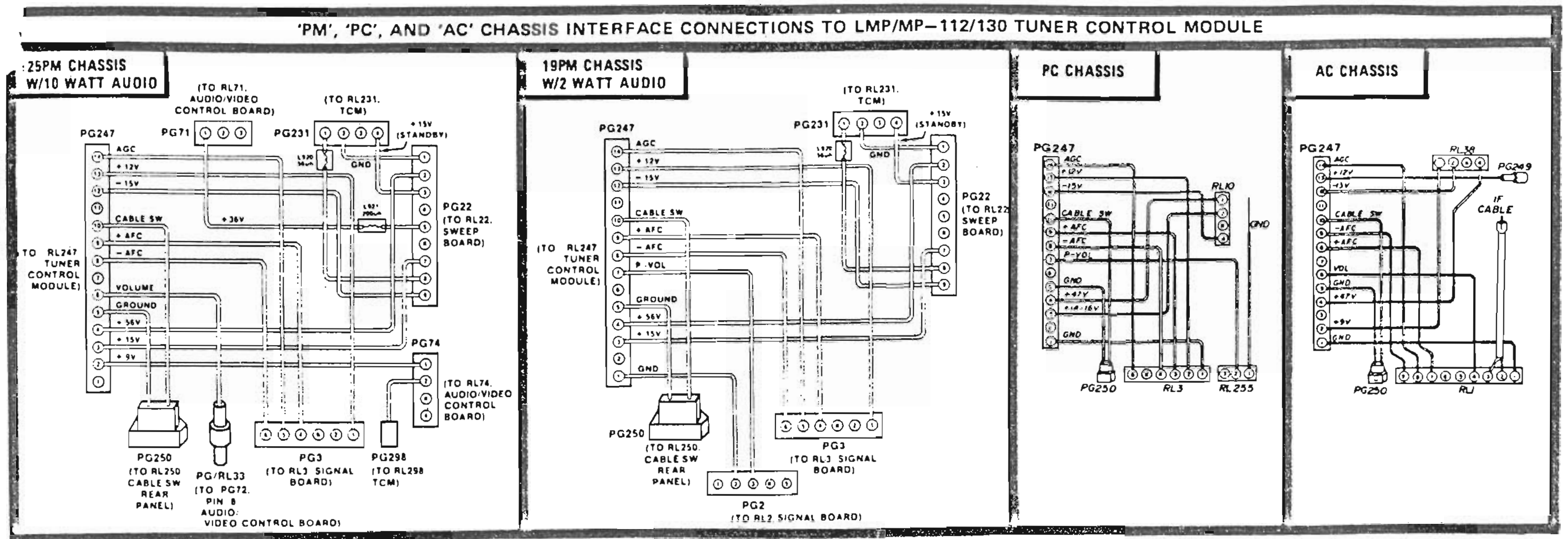
MISCELLANEOUS

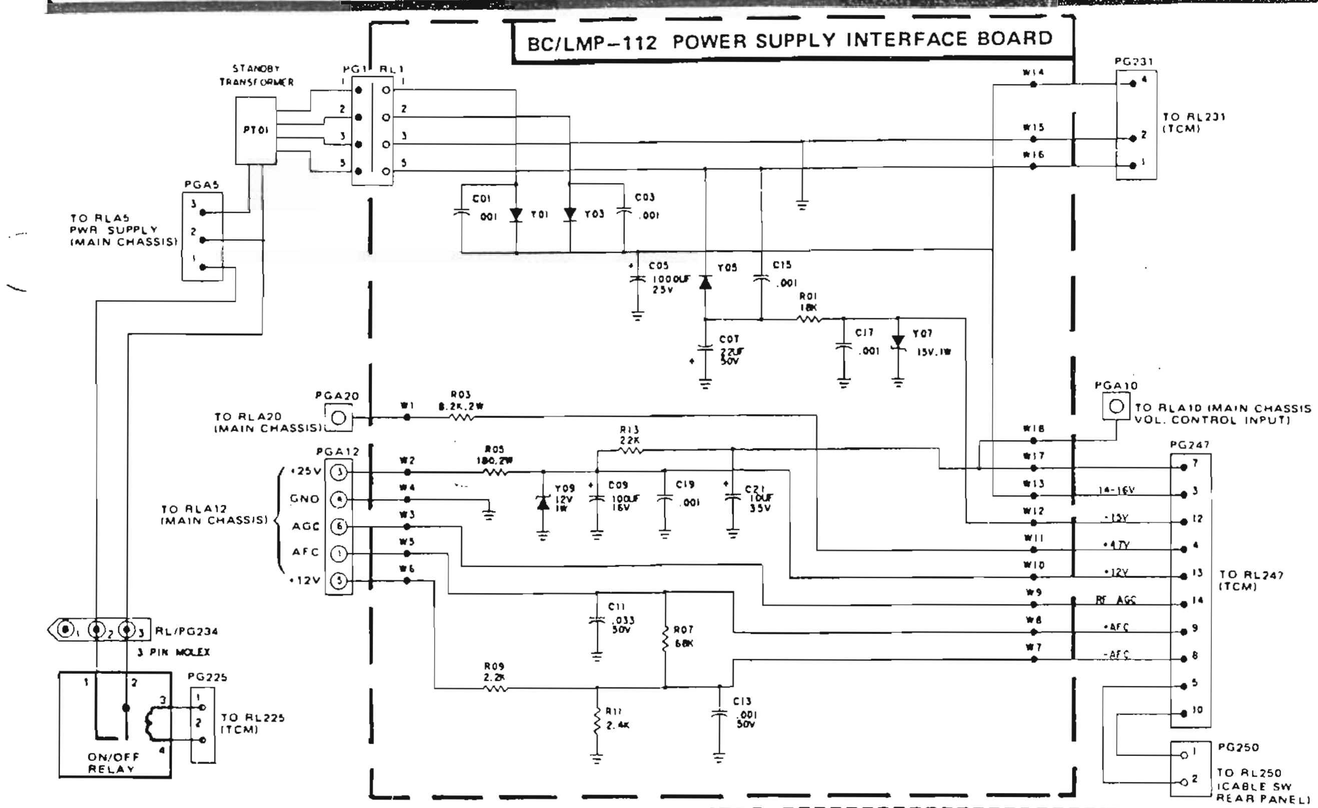
PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

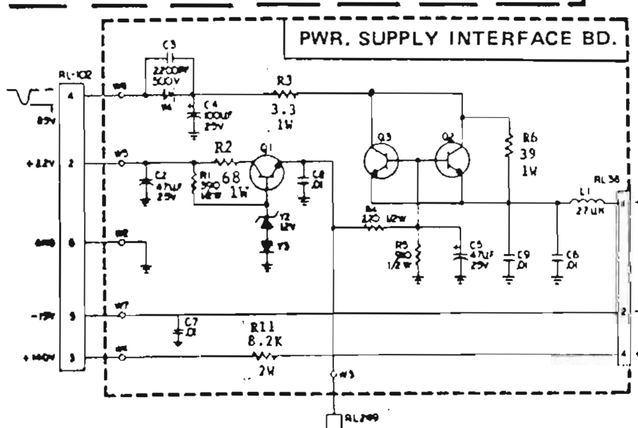
73E261761-

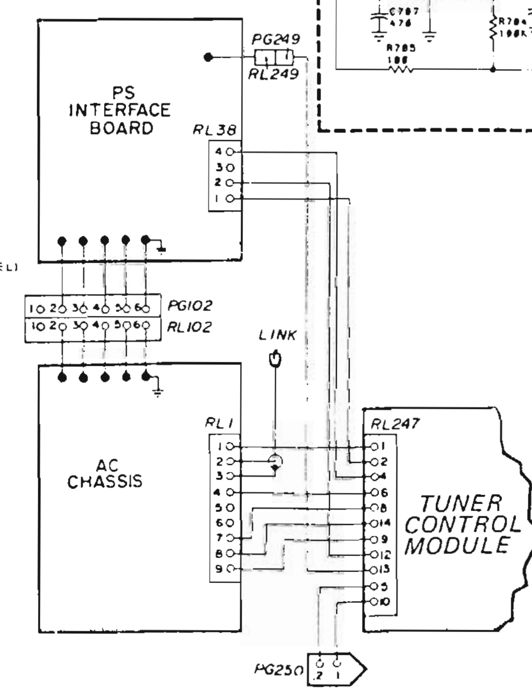




KEYBOARD (Pin to Button Assignment)

RANDOM ACCESS	5 BUTTON	PIN
7,8,9,0	N/C	8
ON/OFF,1,4,9,E	CH↑	7
KEY	KEY	6
2,3,4,5	ON/OFF	5
ON/OFF,V,3,6,8	CH↓	4
COM	COM	3
V↑,5,6,8,E	VOL↑	2
V↑,V↓,1,2,7	VOL↓	1

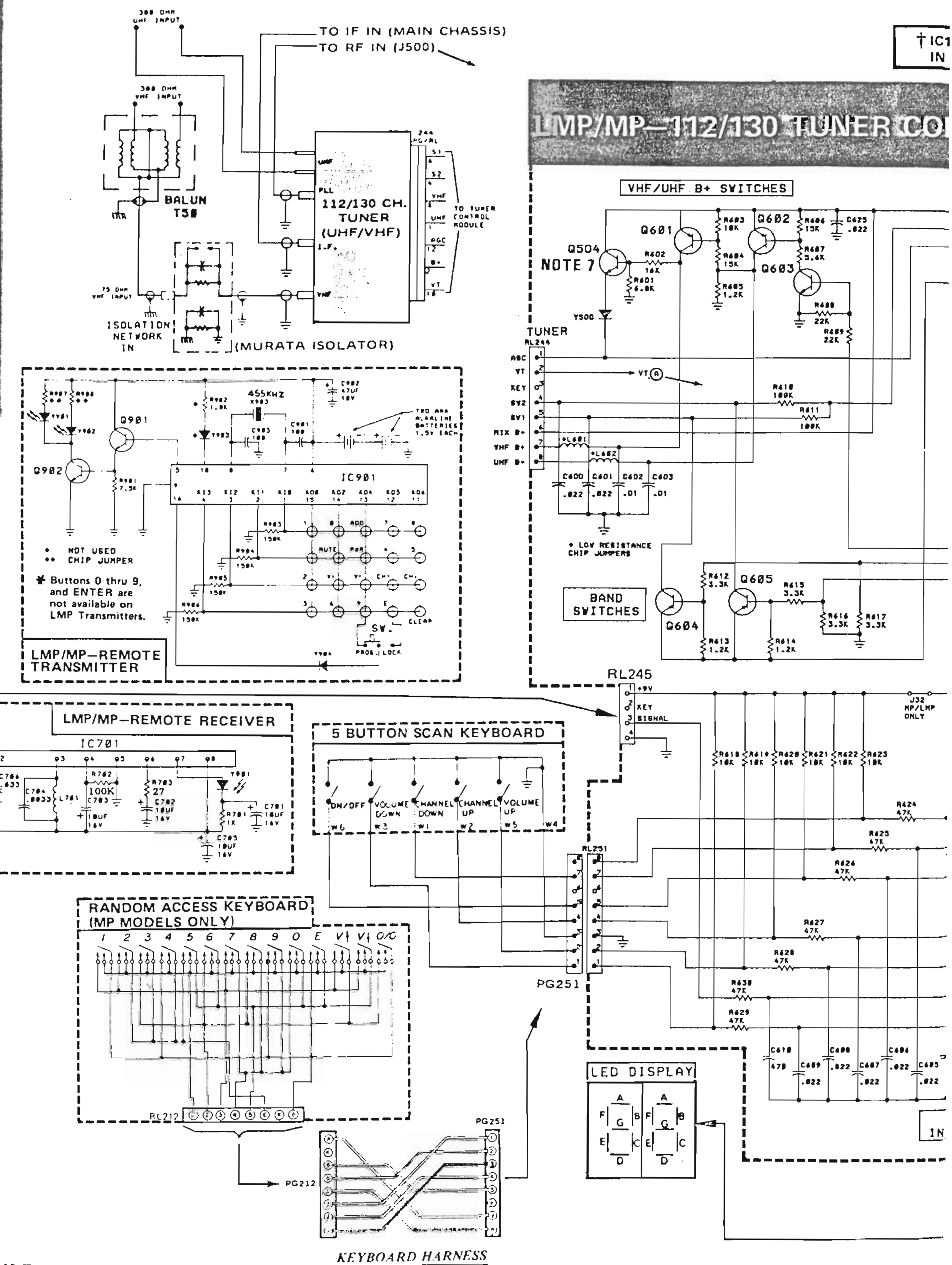


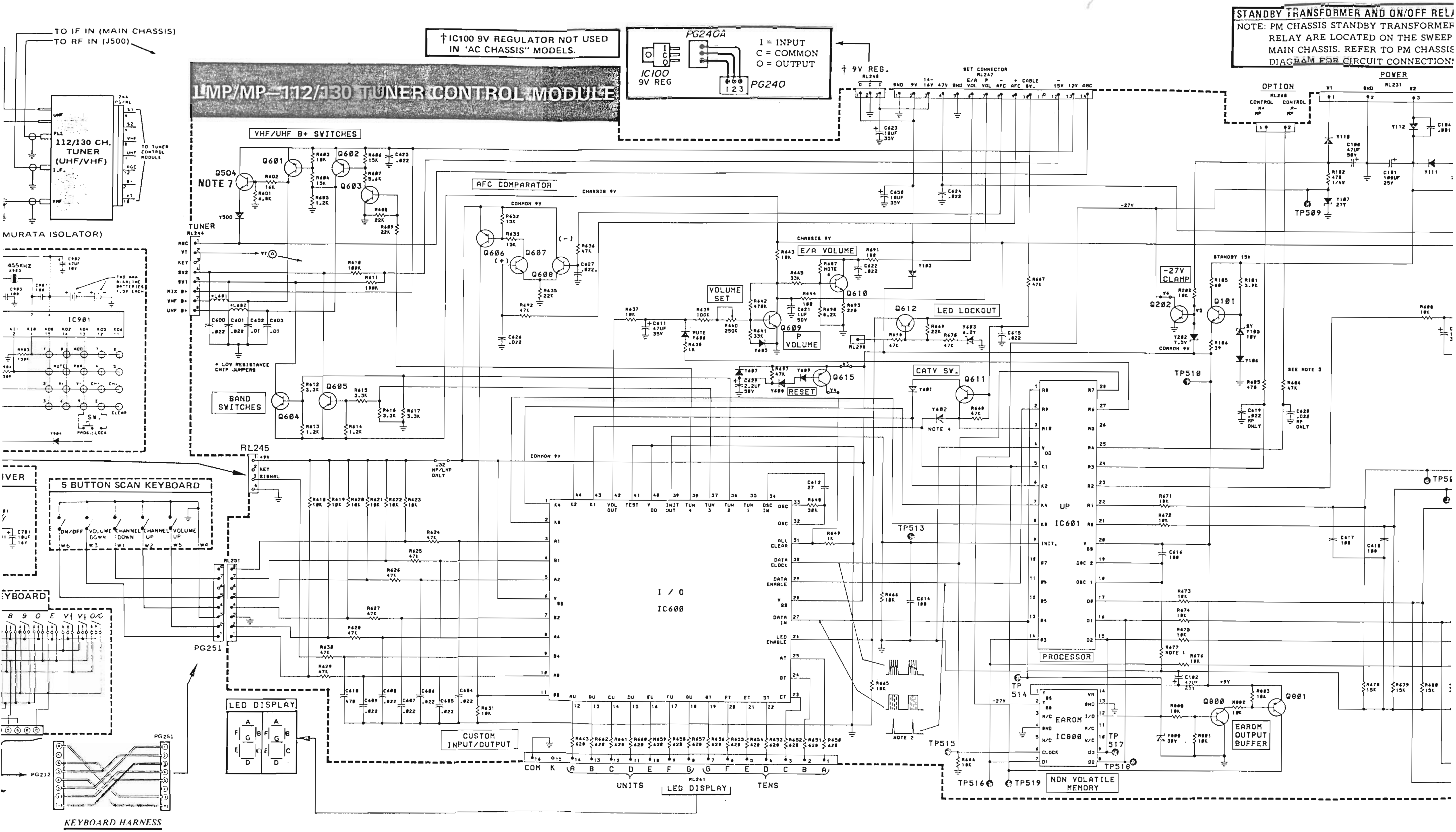


AC CHASSIS PWR. SUPPLY INTERFACE TO TUNER CONTROL MODULE

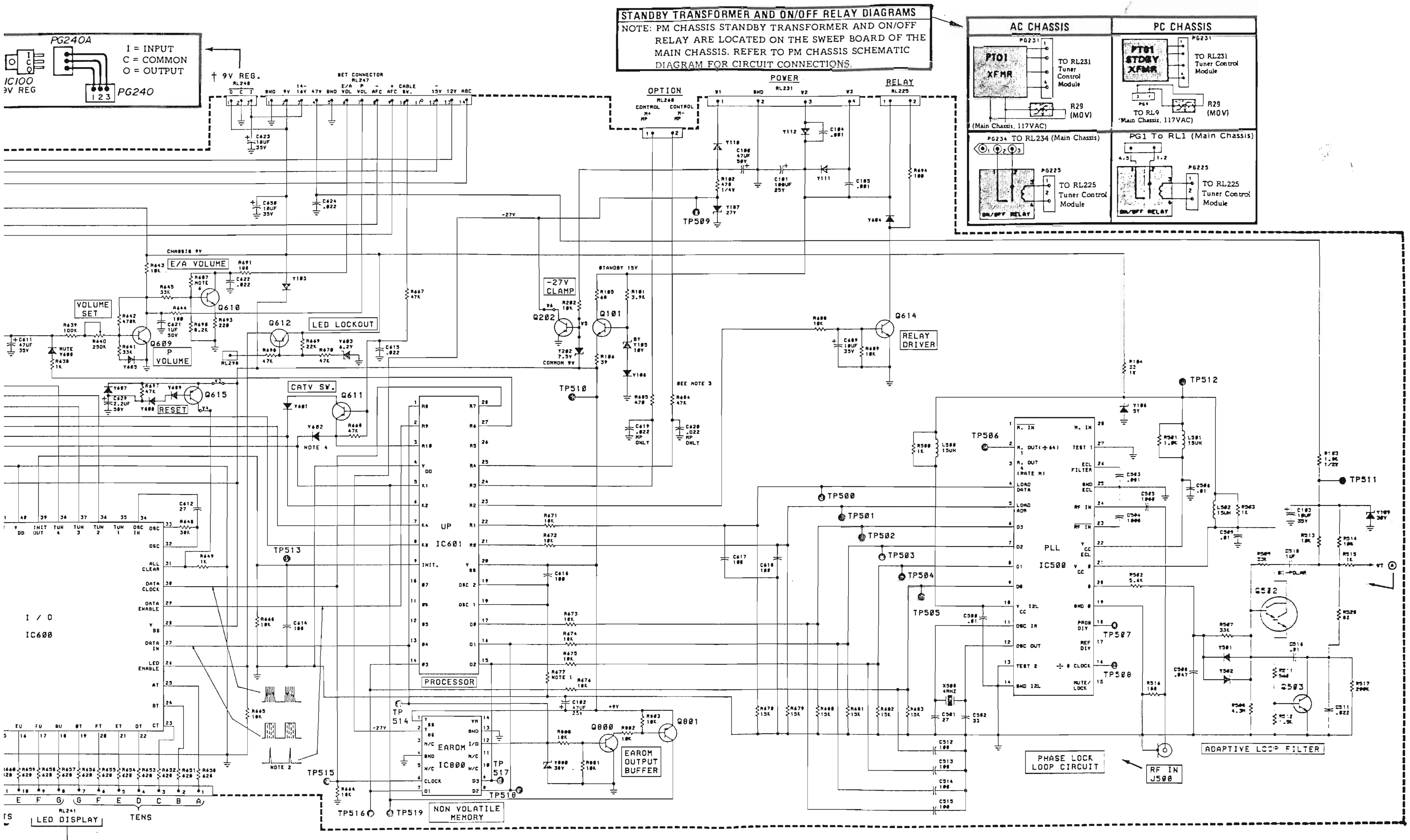
NOTES

1. SELECT FOR: TMS1100 43K FOR LMP; TMS1400 30K FOR MP
2. SIGNAL WAVEFORMS SET ON, LOCKED ON CHANNEL.
3. OPTION CIRCUIT NOT INSTALLED ON SOME MODELS.
4. ADD Y602 FOR RANDOM ACCESS ON MP.
5. UNLESS OTHERWISE NOTED, ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS; ALL VALUES GREATER THAN 1 ARE IN PICOFARADS.
6. 36K–MP; 22K–LMP
7. NOT NEEDED ON 130 CHANNEL TCM, 112 CHANNEL TCM ONLY.





LMP/MP—112/130 TUNER CONTROL MODULE
† IC100 9V REGULATOR NOT USED IN "AC CHASSIS" MODELS.
PG240A
I = INPUT
C = COMMON
O = OUTPUT
IC100 9V REG
PG240
† 9V REG.
STANDBY TRANSFORMER AND ON/OFF RELA
NOTE: PM CHASSIS STANDBY TRANSFORMER RELAY ARE LOCATED ON THE SWEEP MAIN CHASSIS. REFER TO PM CHASSIS DIAGRAM FOR CIRCUIT CONNECTIONS
OPTION
POWER
TO IF IN (MAIN CHASSIS)
TO RF IN (J500)
112/130 CH. TUNER (UHF/VHF)
MURATA ISOLATOR)
VHF/UHF B+ SWITCHES
NOTE 7
AFC COMPARATOR
E/A VOLUME
VOLUME SET
P VOLUME
LED LOCKOUT
-27V CLAMP
CATV SW.
RESET
BAND SWITCHES
5 BUTTON SCAN KEYBOARD
ON/OFF
VOLUME DOWN
CHANNEL DOWN
CHANNEL UP
VOLUME UP
RL245
PG251
LED DISPLAY
CUSTOM INPUT/OUTPUT
I / O IC600
UP IC601
PROCESSOR
EAROM IC800
EAROM OUTPUT BUFFER
NON VOLATILE MEMORY
UNITS
LED DISPLAY
TENS
KEYBOARD HARNESS


STANDBY TRANSFORMER AND ON/OFF RELAY DIAGRAMS
NOTE: PM CHASSIS STANDBY TRANSFORMER AND ON/OFF RELAY ARE LOCATED ON THE SWEEP BOARD OF THE MAIN CHASSIS. REFER TO PM CHASSIS SCHEMATIC DIAGRAM FOR CIRCUIT CONNECTIONS.
AC CHASSIS
PC CHASSIS
TO RL231 Tuner Control Module
R29 (MOV)
(Main Chassis, 117VAC)
PG234 TO RL234 (Main Chassis)
PG1 To RL1 (Main Chassis)
TO RL225 Tuner Control Module
PG240A
I = INPUT
C = COMMON
O = OUTPUT
IC100
9V REG
PG240
9V REG.
OPTION
POWER
RELAY
E/A VOLUME
VOLUME SET
P VOLUME
LED LOCKOUT
-27V CLAMP
RELAY DRIVER
CATV SW.
RESET
UP IC601
PROCESSOR
I / O
IC600
EAROM IC800
EAROM OUTPUT BUFFER
NON VOLATILE MEMORY
PLL IC500
PHASE LOCK LOOP CIRCUIT
RF IN J500
ADAPTIVE LOOP FILTER
LED DISPLAY
TENS
TP500
TP501
TP502
TP503
TP504
TP505
TP506
TP507
TP508
TP509
TP510
TP511
TP512
TP513
TP515
TP516
TP519

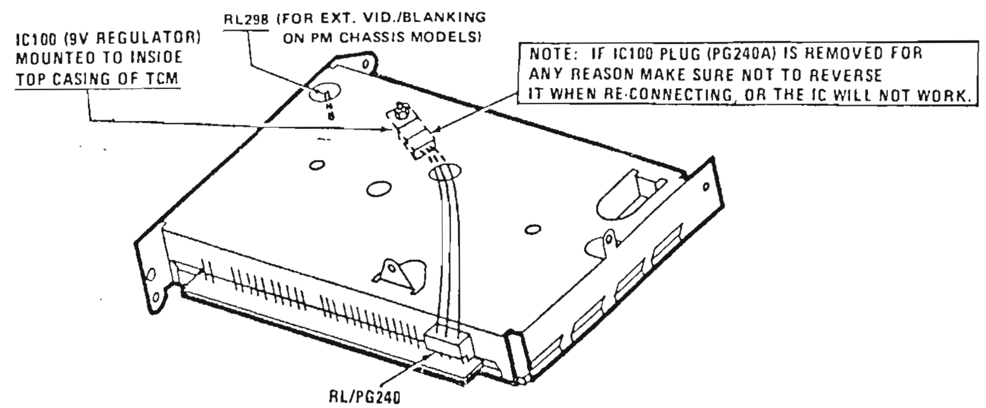
LMP/MP–112/130 "REMOTE" ELECTRONIC TUNING SYSTEM

MINI-MANUAL

SERVICE INFORMATION
FOR TECHNICIAN
USE ONLY
ACCESSIBLE FROM INSIDE
TV SET ONLY

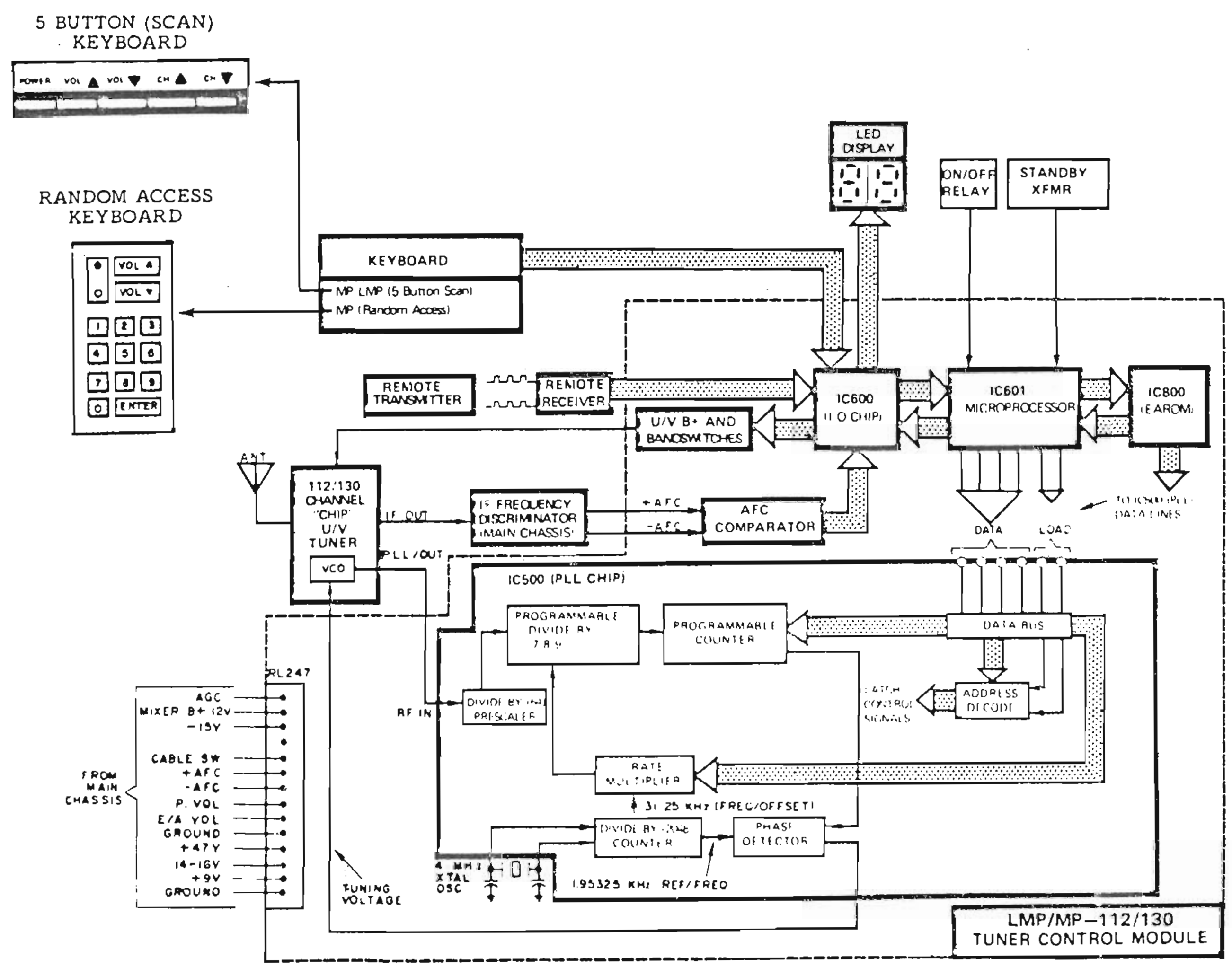
73E261853–6

LMP/MP–112/130 TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)



† IC100 9V REGULATOR NOT USED IN "AC CHASSIS" MODELS.

LMP/MP–112/130 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM

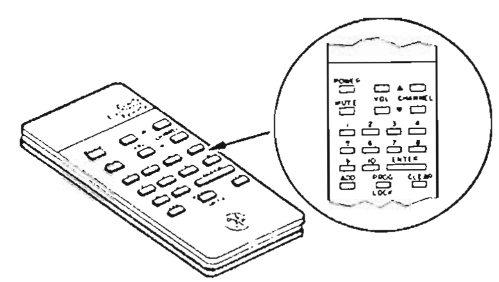


LMP/MP–112/130 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM

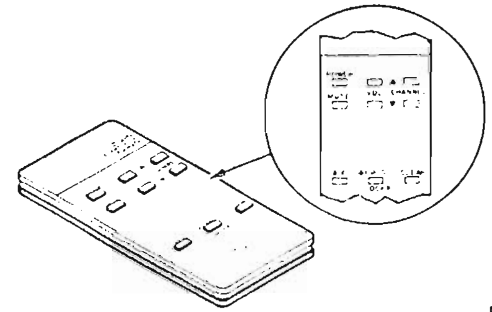
LMP/MP–112/130 TUNING SYSTEM COMPONENT ASSEMBLIES



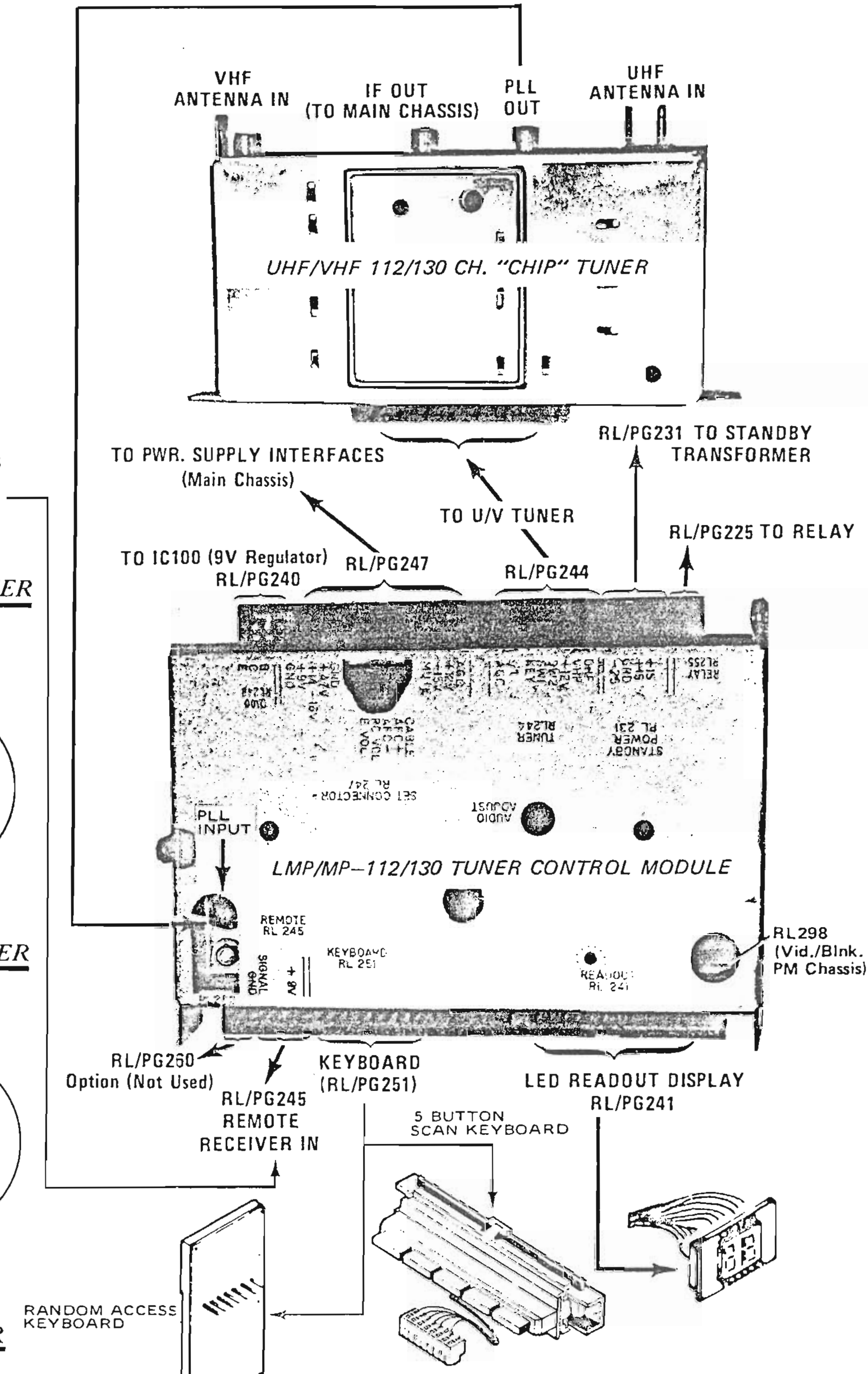
LMP/MP–112/130 REMOTE RECEIVER



MP–112/130 REMOTE TRANSMITTER



LMP–112/130 REMOTE TRANSMITTER



LMP/MP–112/130 TUNING SYSTEM COMPONENT ASSEMBLIES

LMP/MP–11[…]

General: To cha[…] mor[…] sym[…] mod[…] ing […] info[…] not […] repa[…]

Power Supplies

1. Do not unplug[…] RL/PG247. (Ch[…] included with t[…]
2. Check RL231, p[…] B minus (–) 2[…]
3. Check RL225, p[…] 17VDC.
4. Check RL245, p[…] to 8.5 VDC.

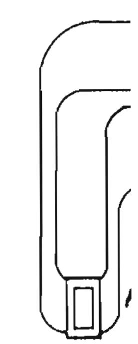
RL225 Pin 1, +[…] set will sw[…] On/OFF […] grounding […] 100 ohm, […] necessary. […] supplies

5. Check for short[…] They are freque[…]

LMP/MP[…]

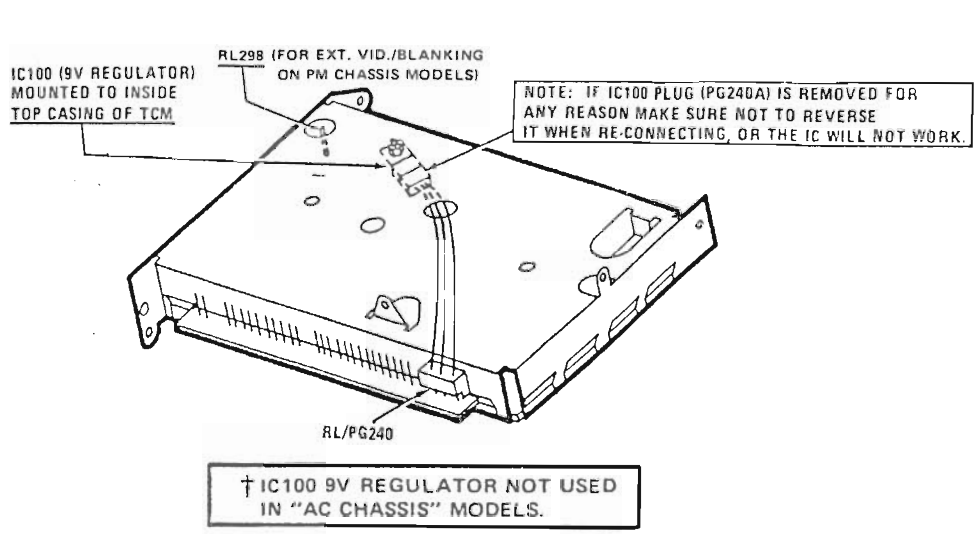
REMOTE RECEIVER

KEYBOAR[…]

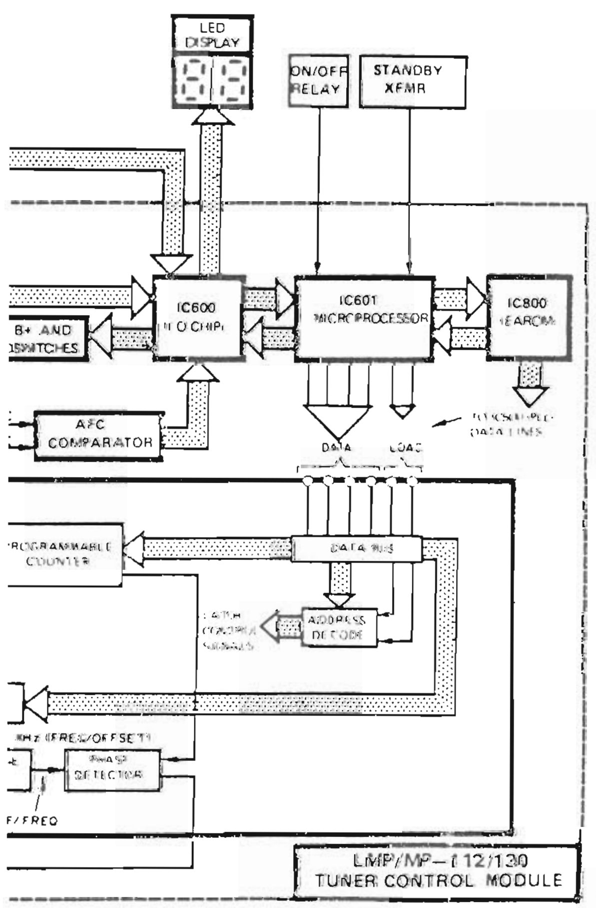


LMP/MP[…]

LMP/MP–112/130 TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)



SYSTEM BLOCK DIAGRAM

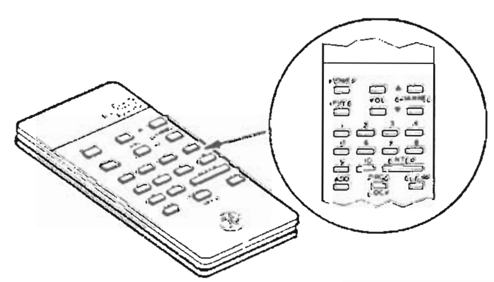


G SYSTEM BLOCK DIAGRAM

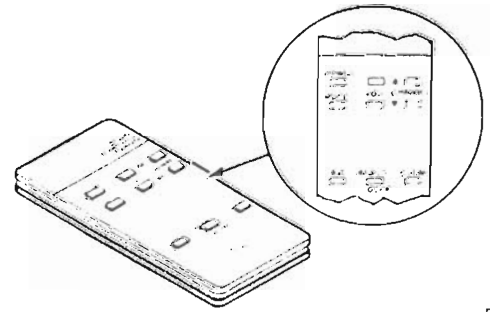
LMP/MP–112/130 TUNING SYSTEM COMPONENT ASSEMBLIES



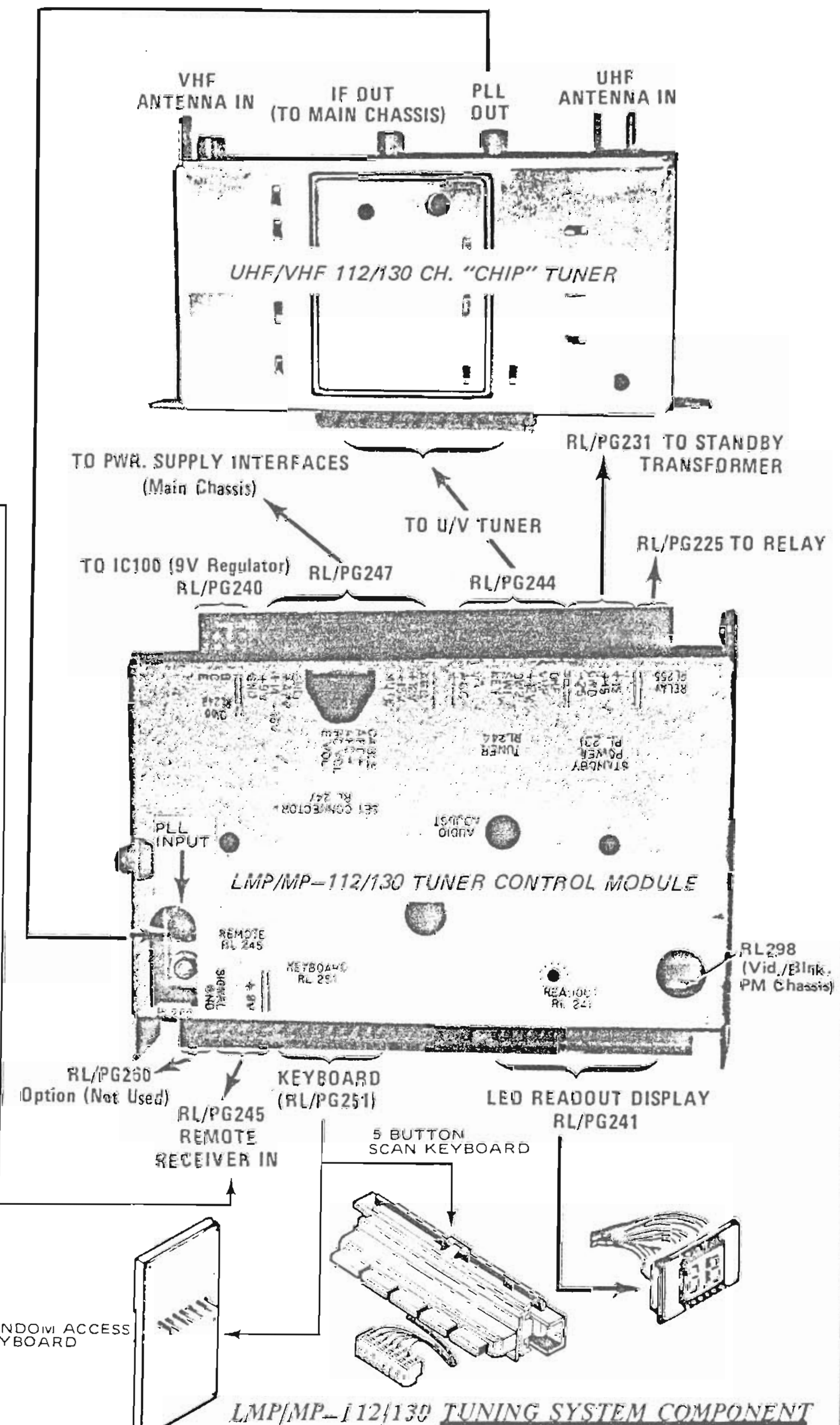
LMP/MP–112/130 REMOTE RECEIVER



MP–112/130 REMOTE TRANSMITTER



LMP–112/130 REMOTE TRANSMITTER



LMP/MP–112/130 TUNING SYSTEM COMPONENT ASSEMBLIES

LMP/MP–112/130 TUNING SYSTEM TROUBLESHOOTING INFORMATION

General: To help troubleshoot the 112/130 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247. (Check +15V only if IC regulator is included with tuner control module).
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (–) 27V supply to IC800, EAROM.
3. Check RL225, pin 1 for ON/OFF Relay B+ 13 to 17VDC.
4. Check RL245, pin 1 for Remote Receiver B+ 7.5 to 8.5 VDC.

NOTE:

RL225 Pin 1, +15 V must be correct before the set will switch on. If supplies are OK, the On/OFF relay may be forced on by grounding pin 2 of RL/PG225 through a 100 ohm, ½ watt resistor. Replace Q614 if necessary, otherwise inspect TV power supplies

5. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Troubleshooting Order

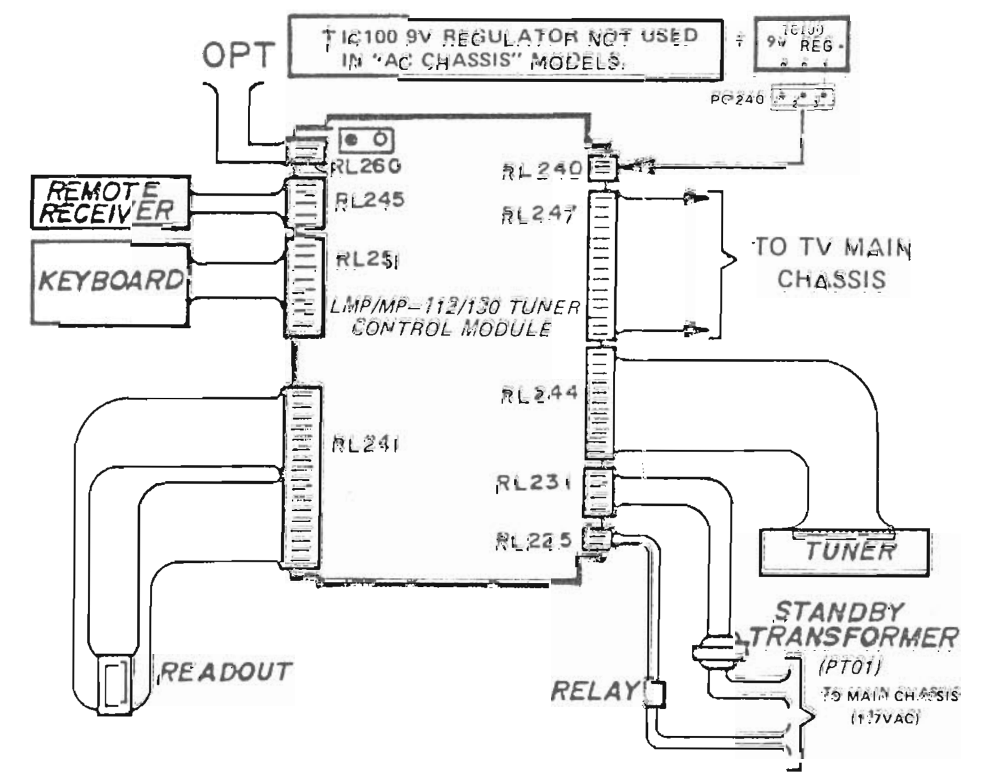
In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check:

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC800 (EAROM)
6. IC500 (PLL CHIP)

Categorized Symptoms

- No Remote control (Keyboard works OK). (Note: LMP/MP Keyboard follows favorite/sequential action of transmitter/5 button keyb'd.)
  Check Transmitter
- Dark Raster (LED Readout Display OK)
  Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
  Check Bandswitch Transistors
- No Channel, No Keyboard or Remote operation with Relay forced ON (LMP/MP)
  Check Microprocessor (IC601)
- No Last Channel or Favorite Channel Memory during power failure.
  Check IC800
- Readout Display OK, but Channels Off-Frequency
  Check Bandswitch voltage, if OK, check IC500 (PLL Chip).

LMP/MP–112/130 TUNER CONTROL MODULE PLUG LOCATIONS



LMP/MP–112/130 TUNER CONTROL MODULE PLUG LOCATIONS

LMP/MP–112/130 ELECTRONIC TUNING SYSTEM REPLACEMENT PARTS LIST

LMP112 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L920	EP36X33	CHOKE-56uh, 5% (19" & 25" PM Only)
L921	EP36X48	CHOKE-200uh, 5% (25" PM Only)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	SEE MODEL PAGE	CHANNEL READOUT DISPLAY-Green
	SEE MODEL PAGE	KEYBOARD-On/Off, Vol., Channel Select
	EP93X470	LMP112 TUNER CONTROL BOARD
	EP93X475	REMOTE CONTROL RECEIVER
	EP62X164	REMOTE CONTROL TRANSMITTER ASM.
	* EP41X130	RELAY
	* EP93X394	RELAY CIRCUIT BOARD-Bare
	* EP93X415	UHF/VHF TUNER

LMP130 TUNING SYSTEM

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L920	EP36X33	CHOKE-56uh, 5% (19" & 25" PM Only)
L921	EP36X48	CHOKE-200uh, 5% (25" PM Only)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	SEE MODEL PAGE	CHANNEL READOUT DISPLAY-Green
	SEE MODEL PAGE	KEYBOARD-On/Off, Vol., Channel Select
	EP93X465	LMP130 TUNER CONTROL BOARD
	EP93X480	REMOTE CONTROL RECEIVER
	EP62X164	REMOTE CONTROL TRANSMITTER ASM.
	* EP41X130	RELAY
	* EP93X394	RELAY CIRCUIT BOARD-Bare
	* EP93X502	UHF/VHF TUNER

MP130 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L920	EP36X33	CHOKE-56uh, 5% (19" & 25" PM Only)
L921	EP36X48	CHOKE-200uh, 5% (25" PM Only)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	SEE MODEL PAGE	CHANNEL READOUT DISPLAY-Green
	SEE MODEL PAGE	KEYBOARD-On/Off, Vol., Channel Select
	EP93X464	MP130 TUNER CONTROL BOARD (5 Button Keyboard)
	EP93X490	MP130 TUNER CONTROL BOARD (Random Access Keyboard)
	EP93X492	MP130 TUNER CONTROL BOARD (PW46 Only)
	EP93X482	REMOTE CONTROL RECEIVER
	EP62X165	REMOTE CONTROL TRANSMITTER ASM.
	* EP41X130	RELAY
	* EP93X394	RELAY CIRCUIT BOARD-Bare
	* EP93X502	UHF/VHF TUNER

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microproessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry.

Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED TO ELECTRONIC TUNING TROUBLESHOOTING INFO. FOR POSSIBLE SOLUTION TO THE PROBLEM.

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL 244 Pin 2, while entering the following Channels. CH 1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL 244 Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

POWER SUPPLY INTERFACE BOARD

(AC CHASSIS ONLY)

EP93X457

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
★ R2	EP14X366	58 Ohm, 5%, 1W, Metal Oxide
★ R1	EP14X151	3.3 ohm, 5%, 1W, Metal Oxide
★ R6	EP14X245	39 ohm, 5%, 1W, Metal Oxide
★ R11	EP14X86	8.2K ohm, 5%, 2W, Metal Oxide

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q1	ES15X125	NPN, Silicon
Q2	ES15X125	NPN, Silicon
Q3	ES15X125	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y2	EP16X36	Zener
Y3	EP57X4	Rectifier, Silicon
Y4	EP57X3	Rectifier, Silicon

POWER SUPPLY INTERFACE BOARD

(BC CHASSIS ONLY)

EP93X499

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
★ R05	EP14X346	.18K ohm, 5%, 2W, Metal Oxide

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y01	EP57X4	Silicon
Y03	EP57X4	Silicon
Y05	EP57X4	Silicon
Y07	EP16X52	Zener
Y09	EP16X36	Zener

TUNER CONTROL MODULES LMP112 (EP93X470), LMP130 (EP93X465), MP130 (EP93X464, EP93X490, EP93X492)

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
† IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X235	LMP112 Control (Microprocessor)
IC601	EP84X234	LMP130 Control (Microprocessor)
IC601	EP84X234	MP130 CONTROL (Microprocessor)
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon (Q504 Not Used On 130 TCM's)
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 9.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon (IN TCM [illegible])
Y602	ES16X27	[illegible]
Y603	EP16X153	Zener, [illegible]
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL [illegible]
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%

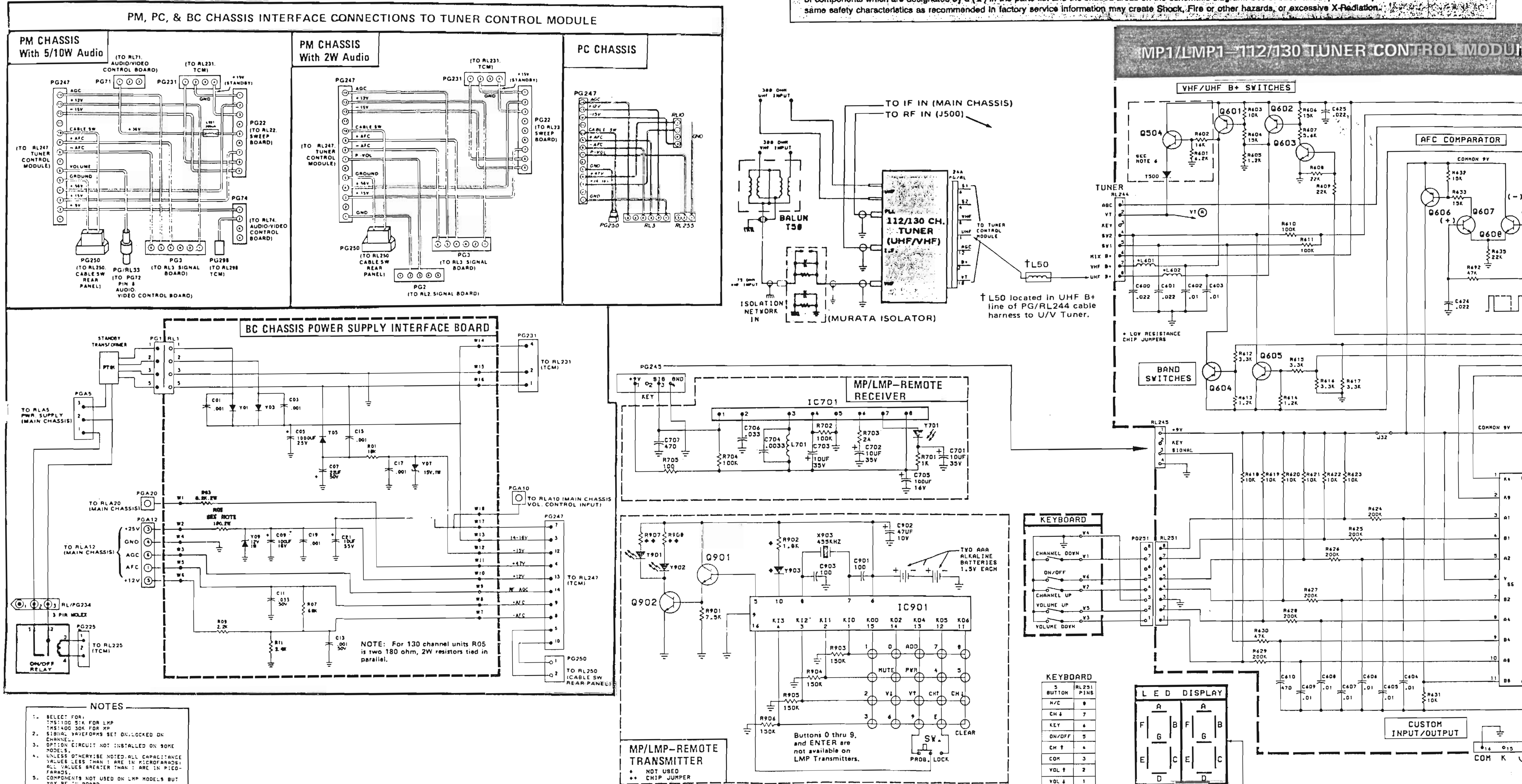
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

73E261853

MP1/LMP1—112/130 ELECTRONIC TUNING SYSTEM

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.



KEYBOARD

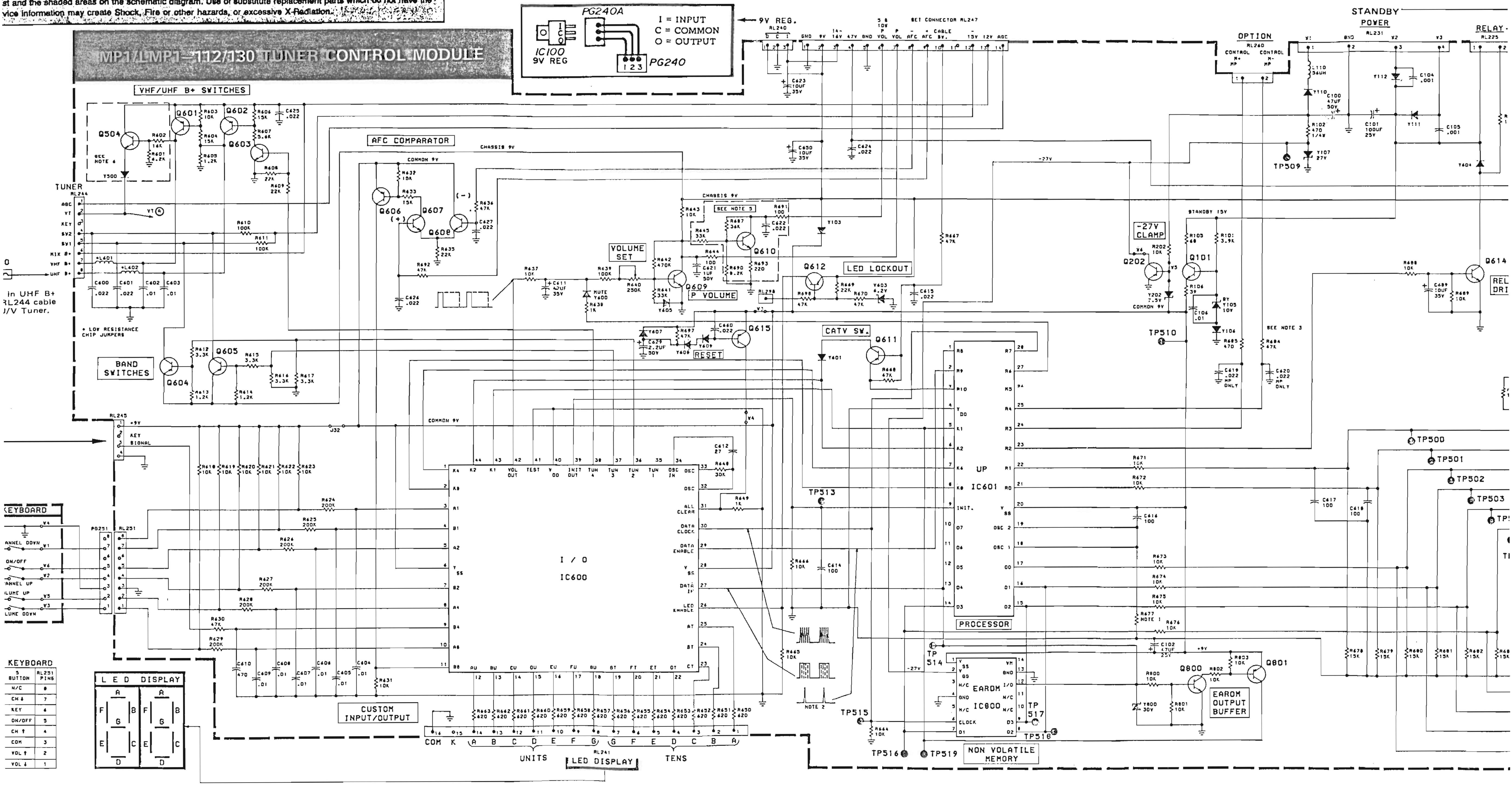
5 BUTTON	RL251 PINS
N/C	8
CH ↓	7
KEY	6
ON/OFF	5
CH ↑	4
COM	3
VOL ↑	2
VOL ↓	1

NOTES

1. SELECT FOR:
   TMS1100 51K FOR LMP
   TMS1400 30K FOR MP
2. SIGNAL WAVEFORMS SET ON, LOCKED ON CHANNEL.
3. OPTION CIRCUIT NOT INSTALLED ON SOME MODELS.
4. UNLESS OTHERWISE NOTED, ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS; ALL VALUES GREATER THAN 1 ARE IN PICO-FARADS.
5. COMPONENTS NOT USED ON LMP MODELS BUT MAY BE IN BOARD.
6. COMPONENTS MAY NOT BE IN ALL BOARDS.

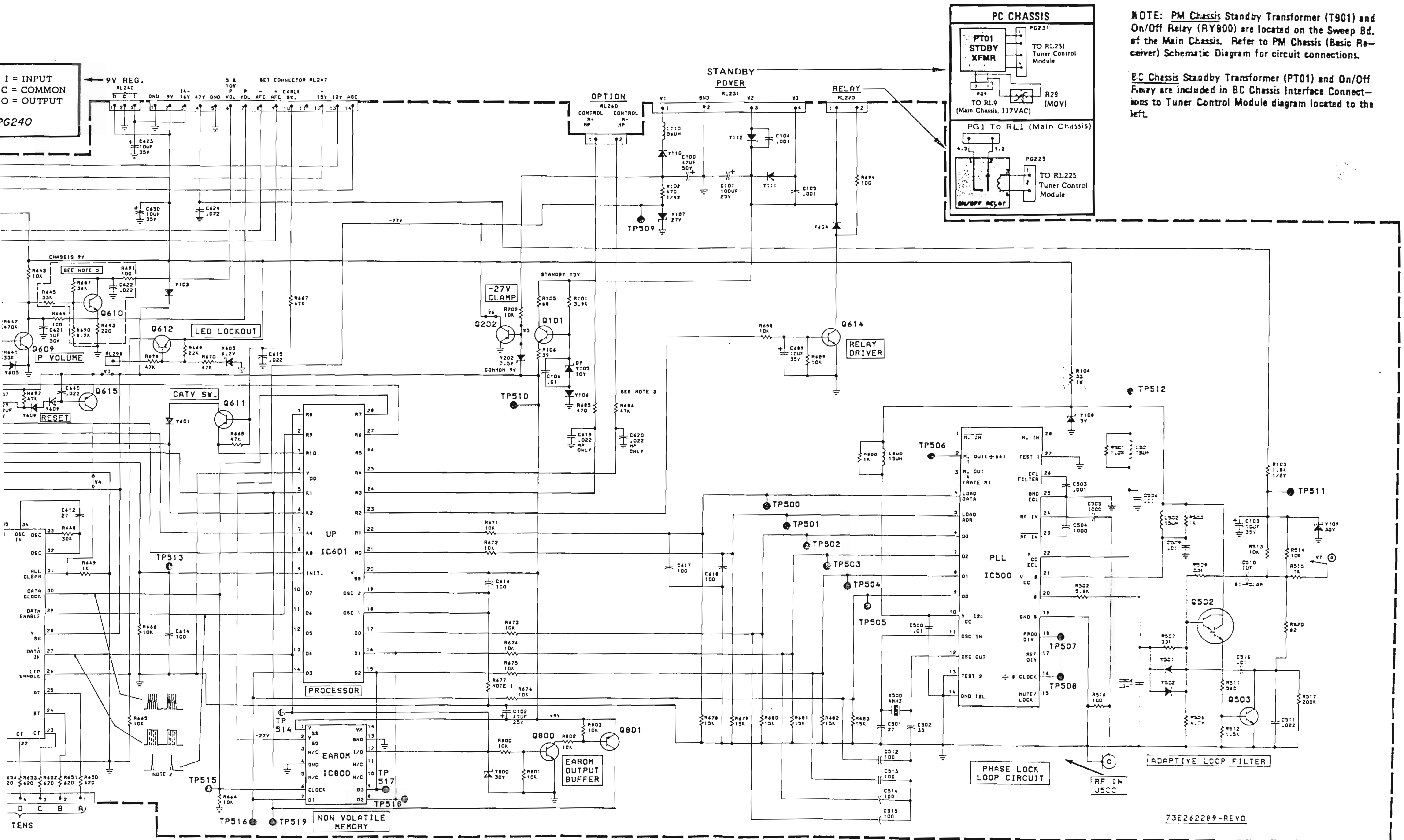
IMPORTANT SAFETY NOTICE

…acement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the …can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement …st and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the …vice information may create Shock, Fire or other hazards, or excessive X-Radiation.



NOTE: PM Chassis Standby Transformer (T901) and On/Off Relay (RY900) are located on the Sweep Bd. of the Main Chassis. Refer to PM Chassis (Basic Receiver) Schematic Diagram for circuit connections.

BC Chassis Standby Transformer (PT01) and On/Off Relay are included in BC Chassis Interface Connections to Tuner Control Module diagram located to the left.



MP1/LMP1–112/130 "REMOTE" ELECTRONIC TUNING SYSTEM

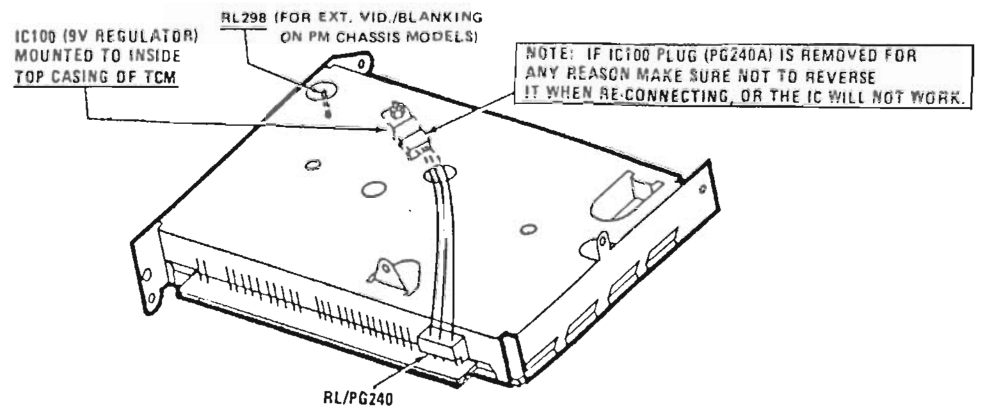
MINI-MANUAL
SERVICE INFORMATION FOR TECHNICIAN USE ONLY
ACCESSIBLE FROM INSIDE TV SET ONLY

73E261853–7

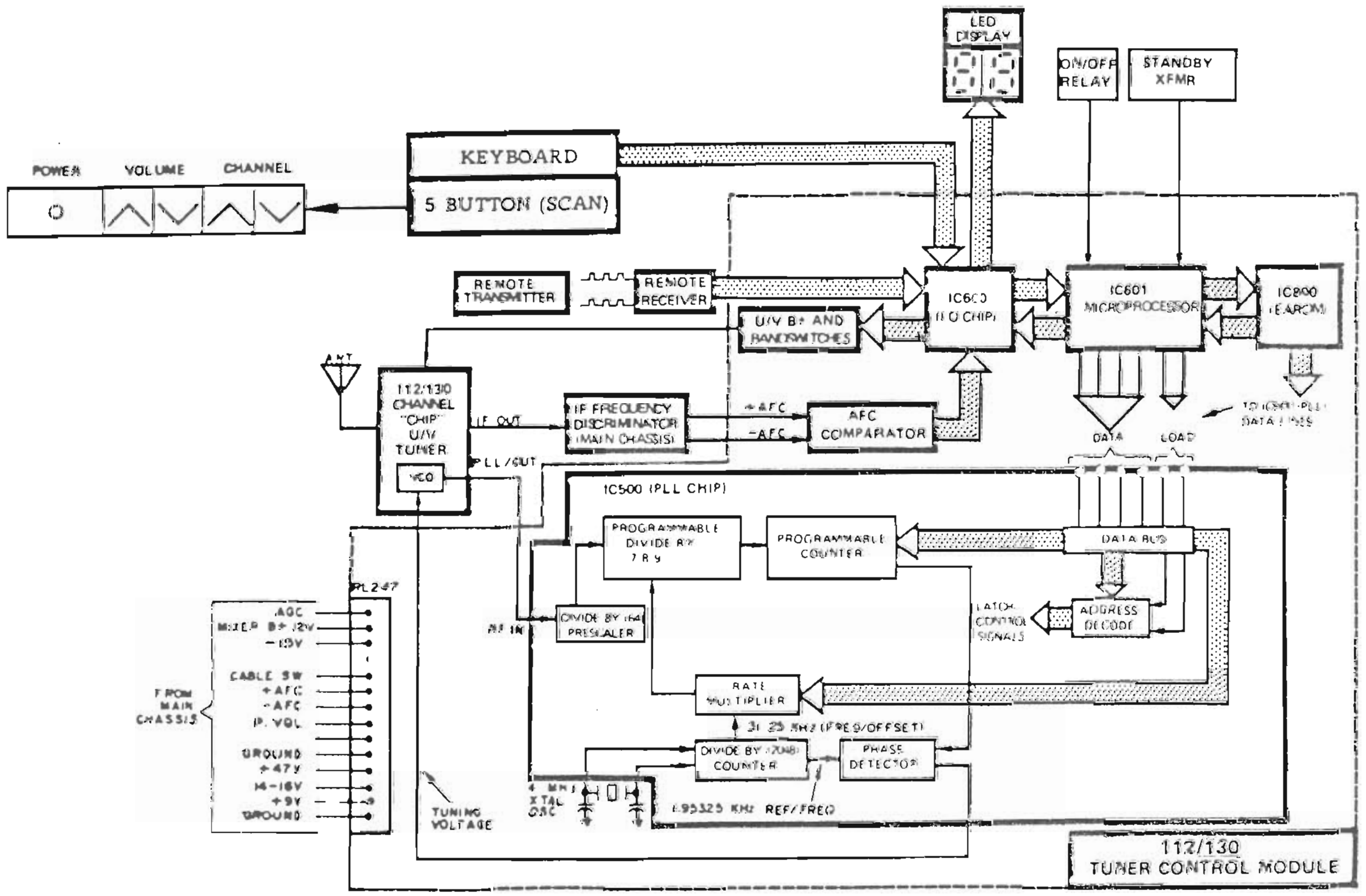
NOTICE TO TECHNICIAN:

THIS MINI–MANUAL IS CUSTOMER PROPERTY. PLEASE REPLACE IN SET WHEN SERVICING IS COMPLETED.

112/130 TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)

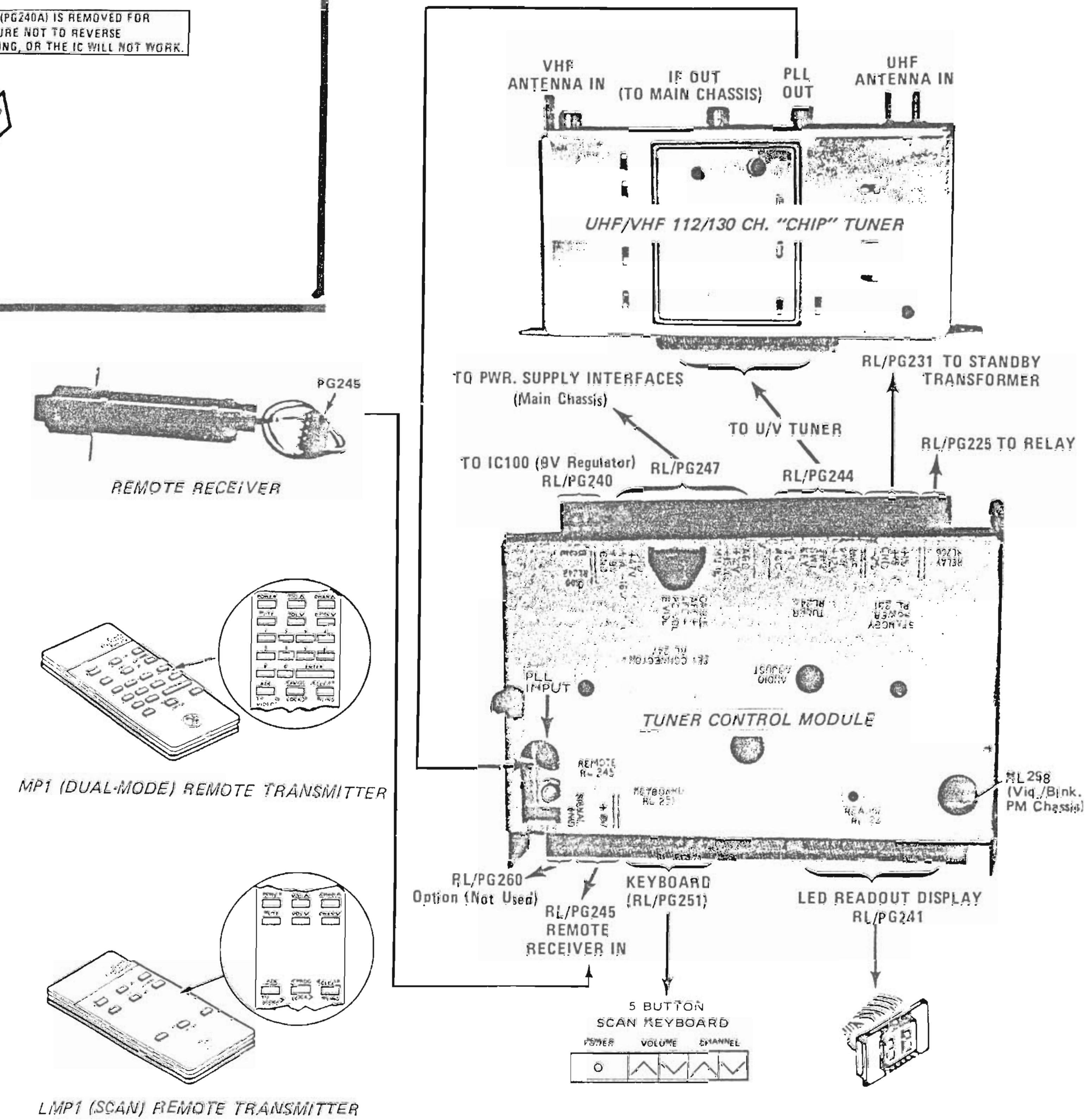


112/130 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM



9/84

112/130 TUNING SYSTEM COMPONENT ASSEMBLIES



112/130 TUNING SYSTEM TROUBLESHOOTING INFORMATION

General: To help troubleshoot the 112/130 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Preliminary

Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247. Check +15V only if IC100 (9V Regulator) is included with tuner control module).
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (−) 27V supply to IC800, (EAROM).
3. Check RL225, pin 1 for ON/OFF Relay B+ 13 to 17VDC.
4. Check RL245, pin 1 for Remote Receiver B+ 7.5 to 8.5 VDC.

NOTE

RL225 Pin 1, +15 V must be correct before the set will switch on. If supplies are OK, the ON/OFF relay may be forced on by grounding pin 2 of RL/PG225 through a 100 ohm, ½ watt resistor. Replace Q614 if necessary, otherwise inspect TV power supplies.

Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check:
1. Tuner/Bandswitch transistors (Q601-Q605)
2. IC601 (Microprocessor)
3. Keyboard
4. IC600 (I/O)
5. IC800 (EAROM)
6. IC500 (PLL)

Categorized Symptoms

- No Remote Control (Keyboard OK). Note: Scan Keyboards follow favorite/sequential action of transmitter.
  Check Transmitter

  Dark Raster (LED Display OK)
  Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
  Check Bandswitch Transistors (Q601-Q605)
- No Channel, No Keyboard or Remote operation with Relay forced ON (Remote Systems only)
  Check IC601 (Microprocessor)
- No Last Channel or Favorite Channel Memory during power failure.
  Check IC800 (EAROM)
- LED Display OK (Channels Off-Frequency)
  Check Bandswitch voltages, if OK, check IC 500 (PLL Chip).
- No Picture (Channel LED Display Incorrect)
  Check Keyboard, IC600 (I/O) and IC601 (uP)

  Picture OK (Channel LED Display Incorrect)
  Check IC600 (I/O), IC601(uP) and LED Display

  No Picture (Channel LED Display OK)
  Check * U/V Tuner, Video IF (Main Chassis), Standby Power Supply, IC601 (uP) IC500 (PLL) and associated circuitry.

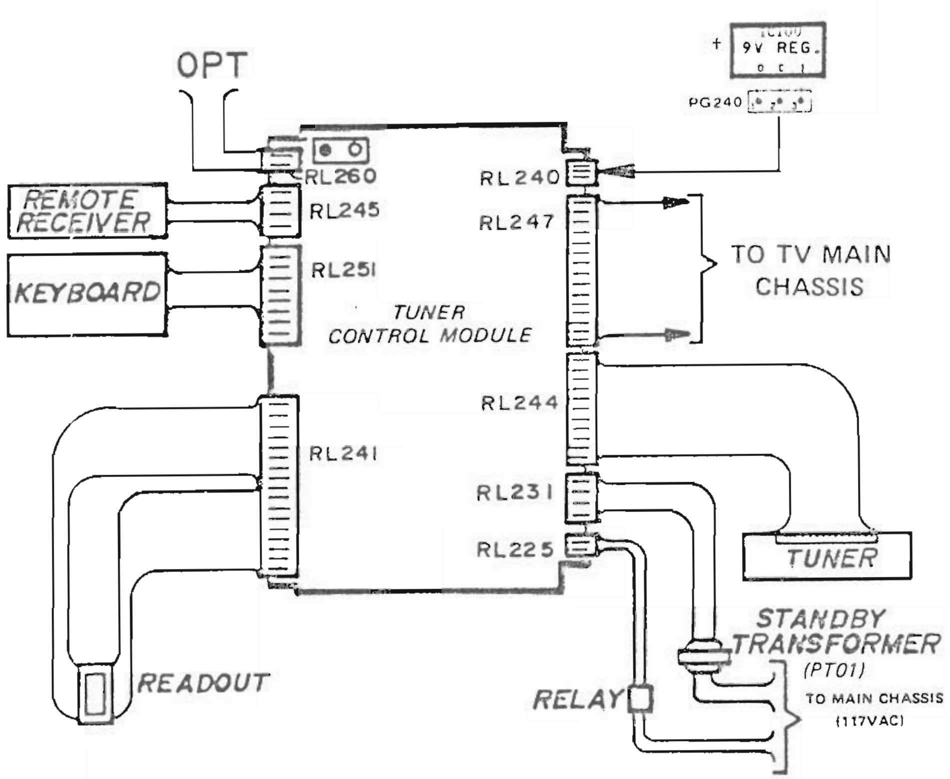
  Before proceeding:
  Check the Main Chassis Video IF. If OK, proceed to U/V Tuner Check below.

U/V TUNER CHECK: (No Picture, Channel LED Display OK)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels; CH. 1 (28V), 6 (20V), 13 (19V), 33 (6.5V) and 82 (26V). The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28VDC at RL244, Pin 2) and connect end of a potentiometer (10K−15K) to the tuning voltage terminal (yellow wire). Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective (replace U/V Tuner).

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

112/130 TUNER CONTROL MODULE PLUG LOCATIONS



MP1/LMP1—112/130 ELECTRONIC TUNING SYSTEM (PARTIAL) REPLACEMENT PARTS LIST

MP1/LMP1-112/130 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L921	EP36X48	CHOKE-200uh, 5% (25" PM Only)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X97	CABLE-Coaxial, From Tuner To Tuner Control Board
RL244B	EP8X91	CONNECTOR-2 Pos.
	EP93X541	MP1/LMP1-112/130 TUNER CONTROL BOARD
	EP93X482	REMOTE CONTROL RECEIVER
	SEE MODEL PAGE	REMOTE CONTROL TRANSMITTER ASM.
	* EP41X130	RELAY
	* EP93X394	RELAY CIRCUIT BOARD-Bare
	* EP93X539	UHF/VHF TUNER (MP1/LMP1-112)
	* EP93X502	UHF/VHF TUNER (MP1/LMP1-130)

MP1/LMP-112/130 TUNER CONTROL CIRCUIT BOARD

EP93X541

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47uf, 20%, 50V, Elect.
C101	EP31X162	100uf, 20%, 25V, Elect.

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. 9V REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM INTERFACE
IC601	EP84X234	MP130 CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	-27V Clamp, PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Sil
Q601	EP15X225	B+ Switch, PNP, Silicon
Q602	EP15X225	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	P Volume, NPN, Silicon
Q610	EP15X88	E/A Volume, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Relay Driver, NPN, Silicon
Q615	EP15X48	Reset, PNP, Silicon
Q800	EP15X87	EAROM Output Buffer, NPN,
Q801	EP15X48	EAROM Output Buffer, PNP,

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener, 10V
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 5.1V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

POWER SUPPLY INTERFACE CIRCUIT BOARD

EP93X499

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1	EP14X414	18K ohm, 5%, 1/4W, Carbon
* R3	EP14X86	8.2K ohm, 5%, 2W, Metal Oxi
* R5	EP14X346	180 ohm, 5%, 2W, Metal Oxid
* R11	EP14X411	2.4K ohm, 5%, 1/4W, Carbon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y1	EP57X4	Rectifier, Silicon
Y3	EP57X4	Rectifier, Silicon
Y5	EP57X4	Rectifier, Silicon
Y7	EP16X52	Zener
Y9	EP16X36	Zener, 1W

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

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112/130 TUNING SYSTEM TROUBLESHOOTING INFORMATION

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note Receiver B+

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Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check:

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2. IC601 (Microprocessor)
3. Keyboard
4. IC600 (I/O)
5. IC800 (EAROM)
6. IC500 (PLL)

Categorized Symptoms

- No Remote Control (Keyboard OK). Note: Scan Keyboards follow favorite/sequential action of transmitter.
  Check Transmitter
- Dark Raster (LED Display OK)
  Check U/V Tuner
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  Check IC601 (Microprocessor)
- No Last Channel or Favorite Channel memory during power failure.
  Check IC800 (EAROM)
- LED Display OK (Channels Off-Frequency)
  Check Bandswitch voltages, if OK, check IC 500 (PLL Chip).
- No Picture (Channel LED Display Incorrect)
  Check Keyboard, IC600 (I/O) and IC601 (uP)
- Picture OK (Channel LED Display Incorrect)
  Check IC600 (I/O), IC601(uP) and LED Display
- No Picture (Channel LED Display OK)
  Check *U/V Tuner, Video IF (Main Chassis), Standby Power Supply, IC601 (uP) IC500 (PLL) and associated circuitry.

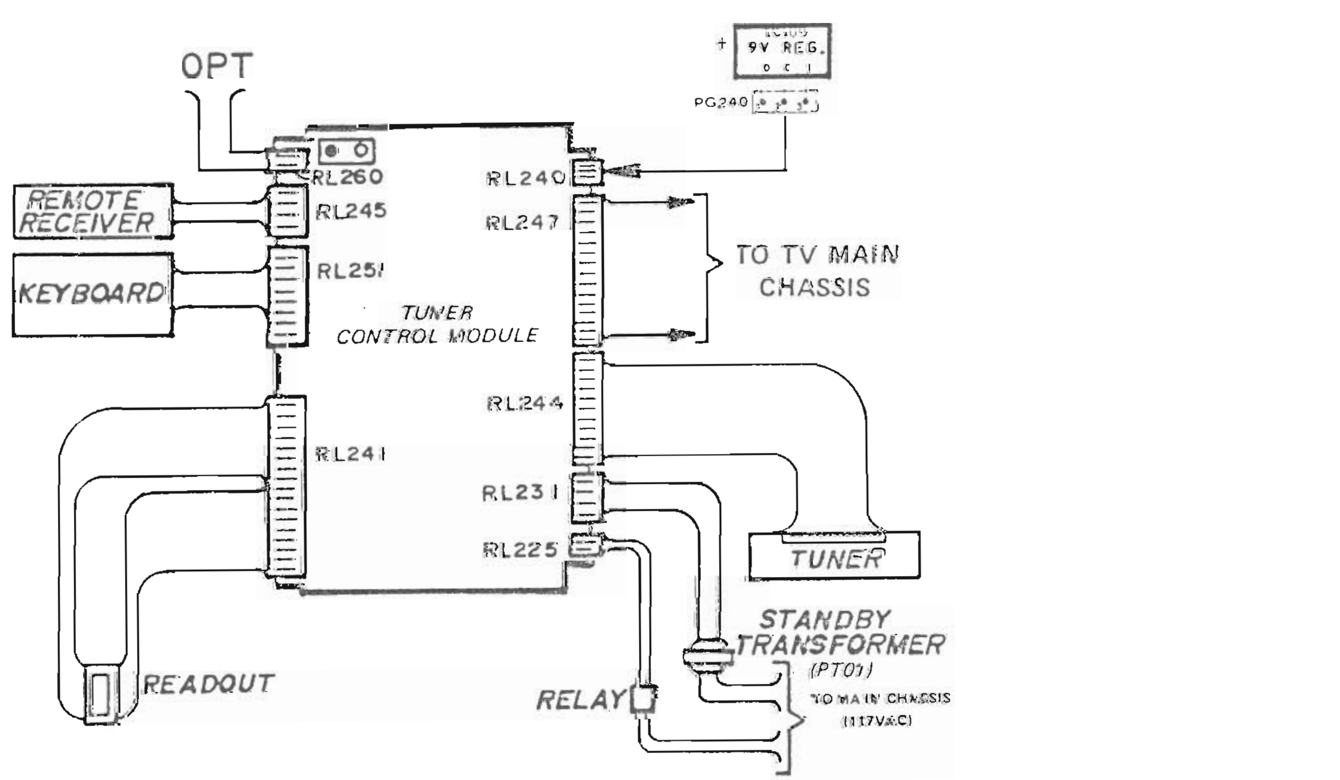
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112/130 TUNER CONTROL MODULE PLUG LOCATIONS



MP1/LMP1–112/130 ELECTRONIC TUNING SYSTEM (PARTIAL) REPLACEMENT PARTS LIST

MP1/LMP1-112/130 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L921	EP36X48	CHOKE-200uh, 5% (25" PM Only)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
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RL244B	EP8X91	CONNECTOR-2 Pos.
	EP93X541	MP1/LMP1-112/130 TUNER CONTROL BOARD
	EP93X482	REMOTE CONTROL RECEIVER
	SEE MODEL PAGE	REMOTE CONTROL TRANSMITTER ASM.
	* EP41X130	RELAY
	* EP93X394	RELAY CIRCUIT BOARD-Bare
	* EP93X539	UHF/VHF TUNER (MP1/LMP1-112)
	* EP93X502	UHF/VHF TUNER (MP1/LMP1-130)

MP1/LMP-112/130 TUNER CONTROL CIRCUIT BOARD

EP93X541

CAPACITORS

REF. NO	PART NO	DESCRIPTION
C100	EP31X45	47uf, 20%, 50V, Elect.
C101	EP31X162	100uf, 20%, 25V, Elect.

INTEGRATED CIRCUITS

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IC600	EP84X222	CUSTOM INTERFACE
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IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	-27V Clamp, PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q601	EP19X229	B+ Switch, PNP, Silicon
Q602	EP19X229	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	P Volume, NPN, Silicon
Q610	EP15X88	E/A Volume, NPN, Silicon
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Q612	EP15X48	LED Lockout, PNP, Silicon
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Q800	EP15X87	EAROM Output Buffer, NPN, Silicon
Q801	EP15X48	EAROM Output Buffer, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
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Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 5.1V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

POWER SUPPLY INTERFACE CIRCUIT BOARD

EP93X499

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1	EP14X414	18K ohm, 5%, 1/4W, Carbon
* R3	EP14X36	8.2K ohm, 5%, 2W, Metal Oxide
* R5	EP14X346	180 ohm, 5%, 2W, Metal Oxide
* R11	EP14X411	2.4K ohm, 5%, 1/4W, Carbon

DIODES

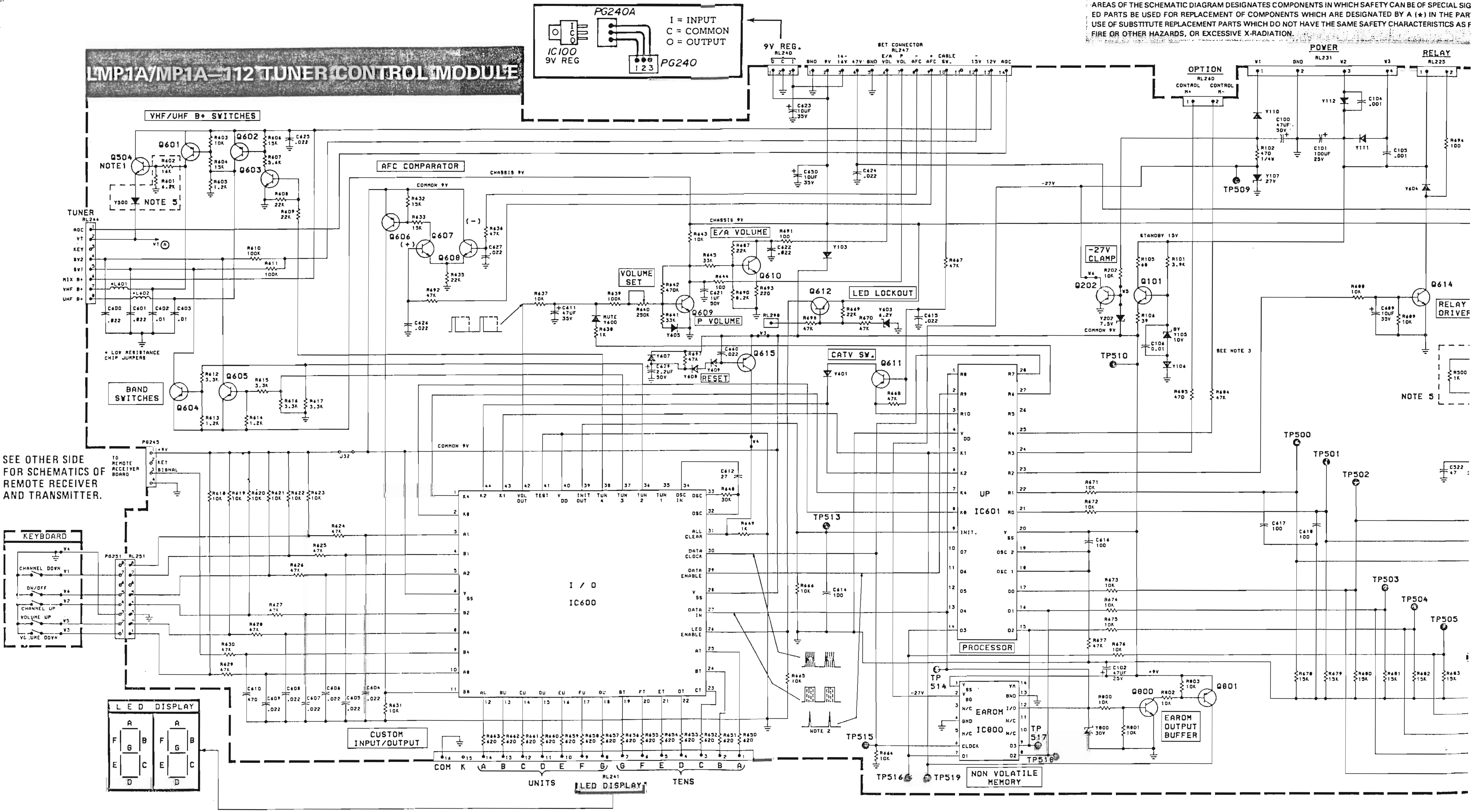
REF. NO.	PART NO.	DESCRIPTION
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Y5	EP57X4	Rectifier, Silicon
Y7	EP16X52	Zener
Y9	EP16X36	Zener, 1W

IMPORTANT SAFETY NOTICE

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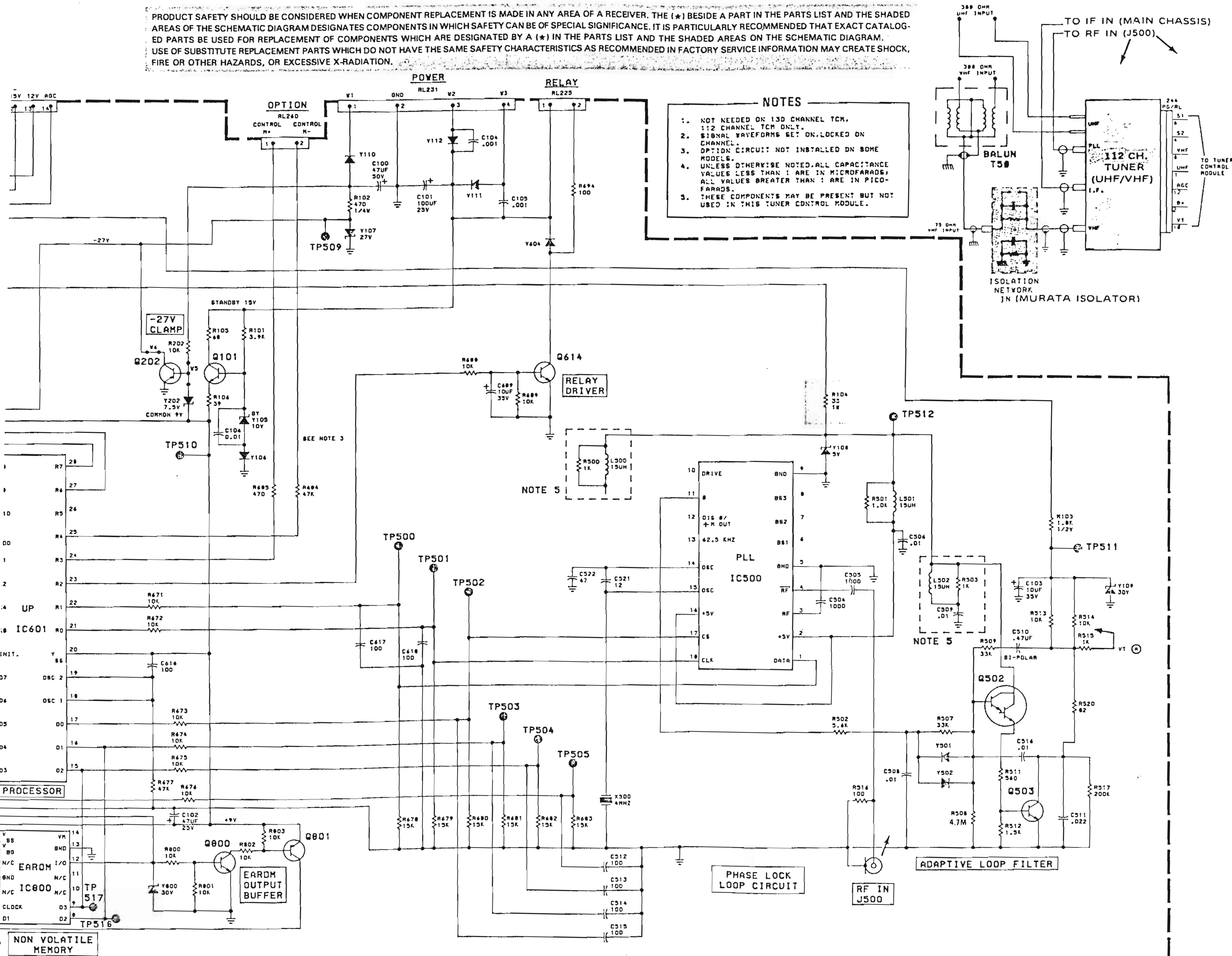
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A
AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIG
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FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.



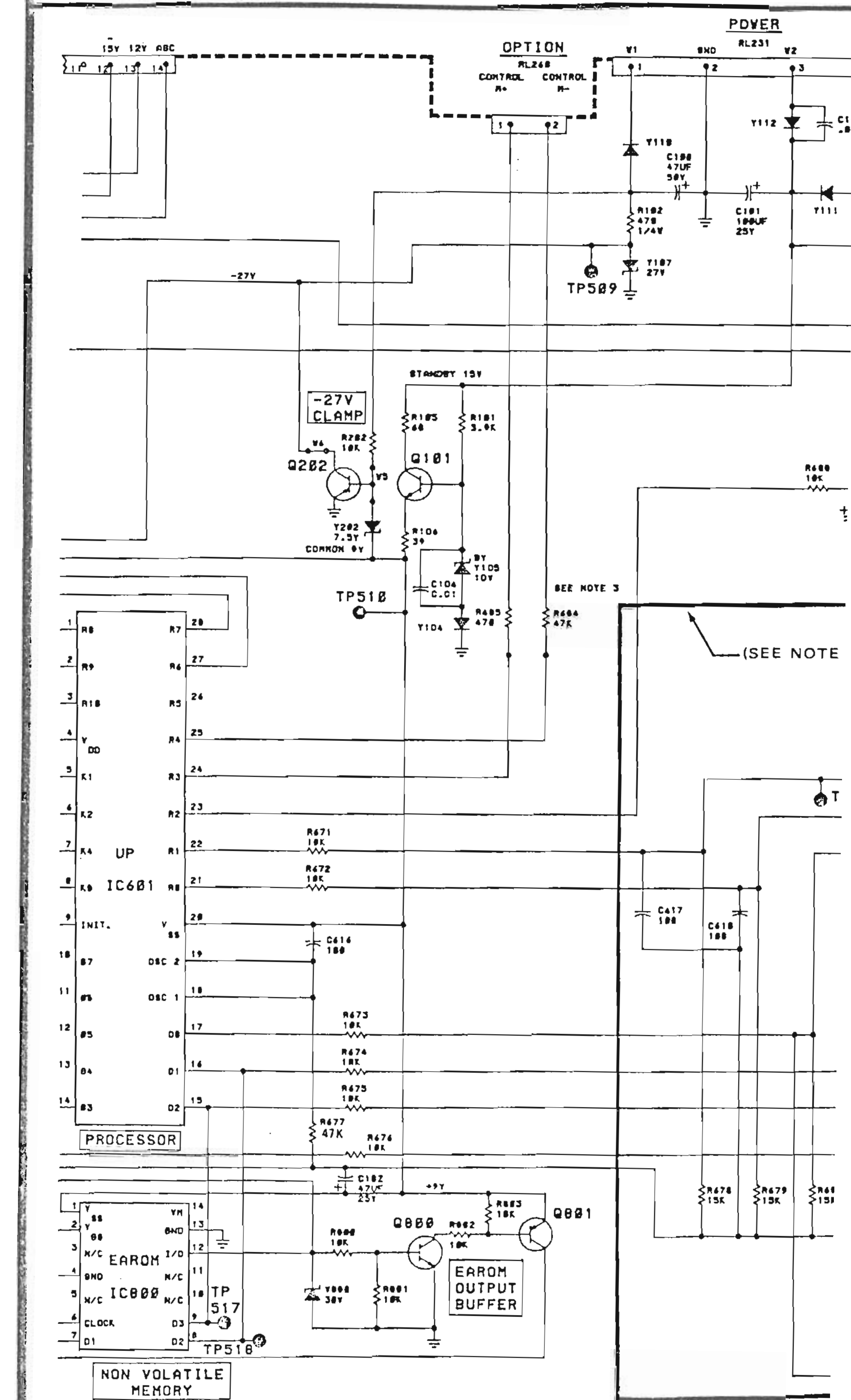
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

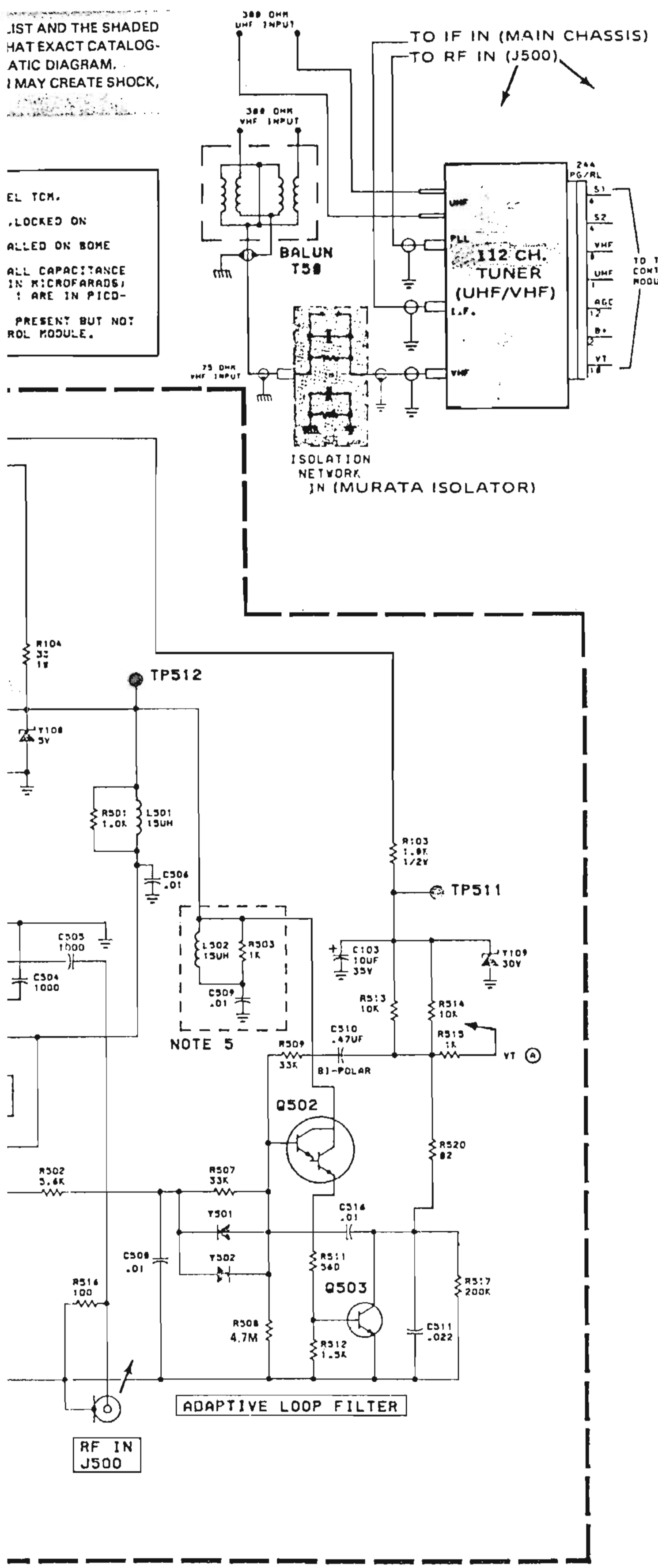
NOTES

1. NOT NEEDED ON 130 CHANNEL TCM. 112 CHANNEL TCM ONLY.
2. SIGNAL WAVEFORMS SET ON, LOCKED ON CHANNEL.
3. OPTION CIRCUIT NOT INSTALLED ON SOME MODELS.
4. UNLESS OTHERWISE NOTED, ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS; ALL VALUES GREATER THAN 1 ARE IN PICOFARADS.
5. THESE COMPONENTS MAY BE PRESENT BUT NOT USED IN THIS TUNER CONTROL MODULE.



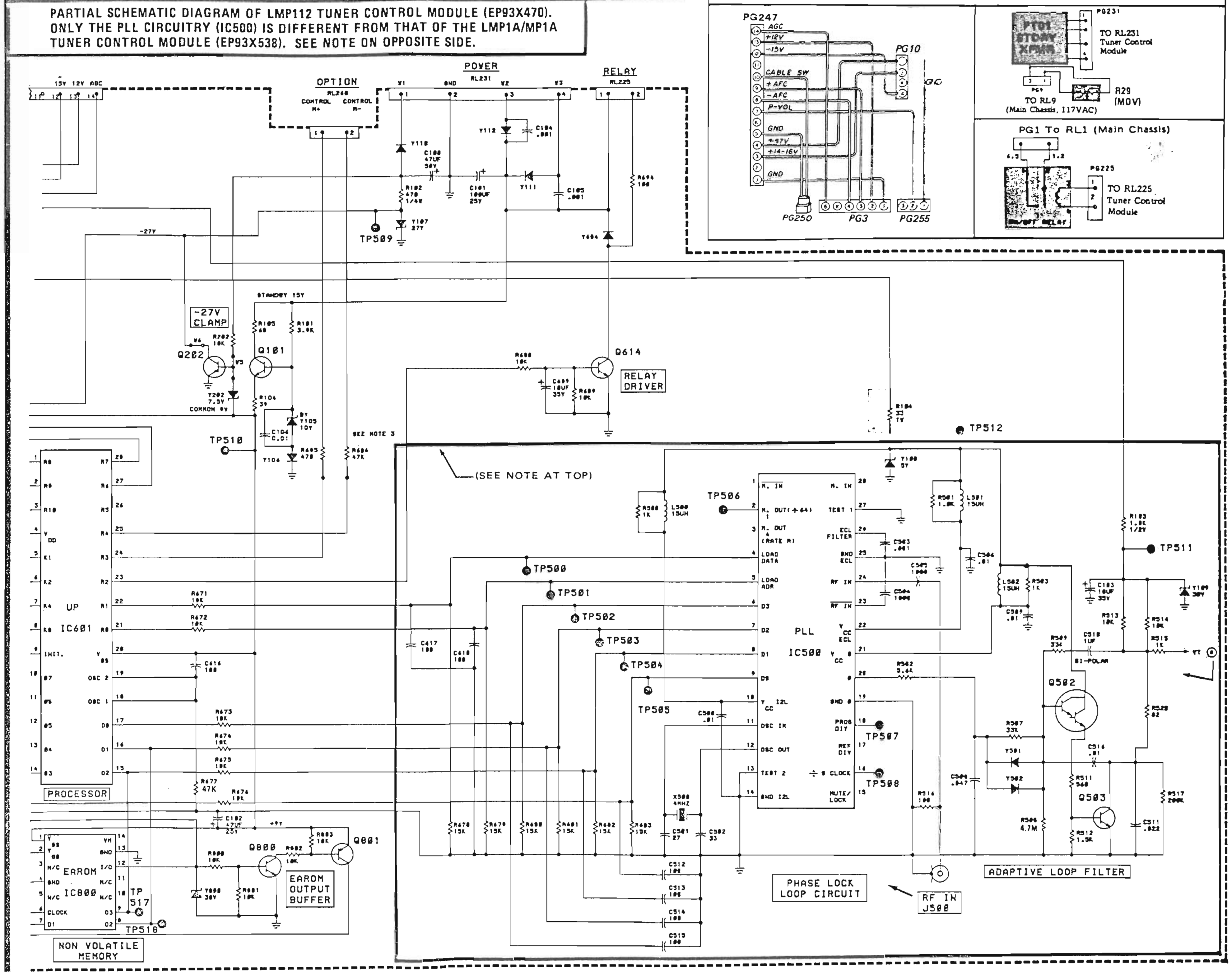
PARTIAL SCHEMATIC DIAGRAM OF LMP112 TUNER CONTROL MODULE (EP93X470 ONLY THE PLL CIRCUITRY (IC500) IS DIFFERENT FROM THAT OF THE LMP1A/MP TUNER CONTROL MODULE (EP93X538). SEE NOTE ON OPPOSITE SIDE.





PARTIAL SCHEMATIC DIAGRAM OF LMP112 TUNER CONTROL MODULE (EP93X470). ONLY THE PLL CIRCUITRY (IC500) IS DIFFERENT FROM THAT OF THE LMP1A/MP1A TUNER CONTROL MODULE (EP93X538). SEE NOTE ON OPPOSITE SIDE.

PC CHASSIS INTERFACE CONNECTIONS TO TCM PLUS STANDBY XFMR & ON/OFF RELAY



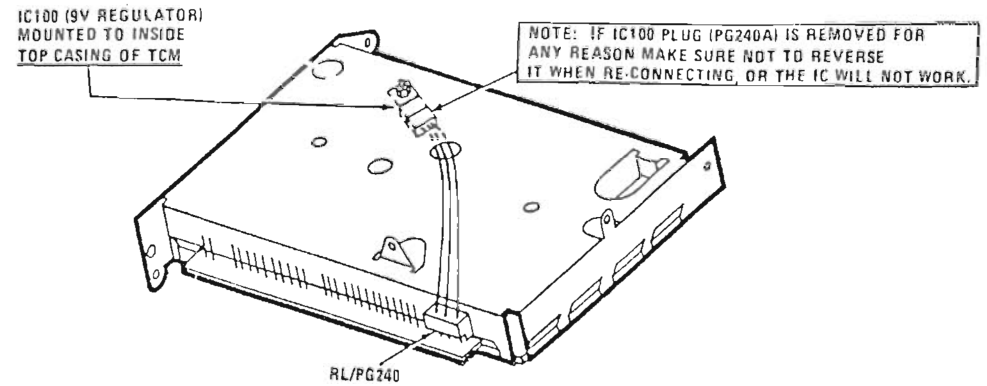
LMP1A/MP1A–112 "REMOTE" ELECTRONIC TUNING SYSTEM

MINI-MANUAL

SERVICE INFORMATION FOR TECHNICIAN USE ONLY
ACCESSIBLE FROM INSIDE TV SET ONLY

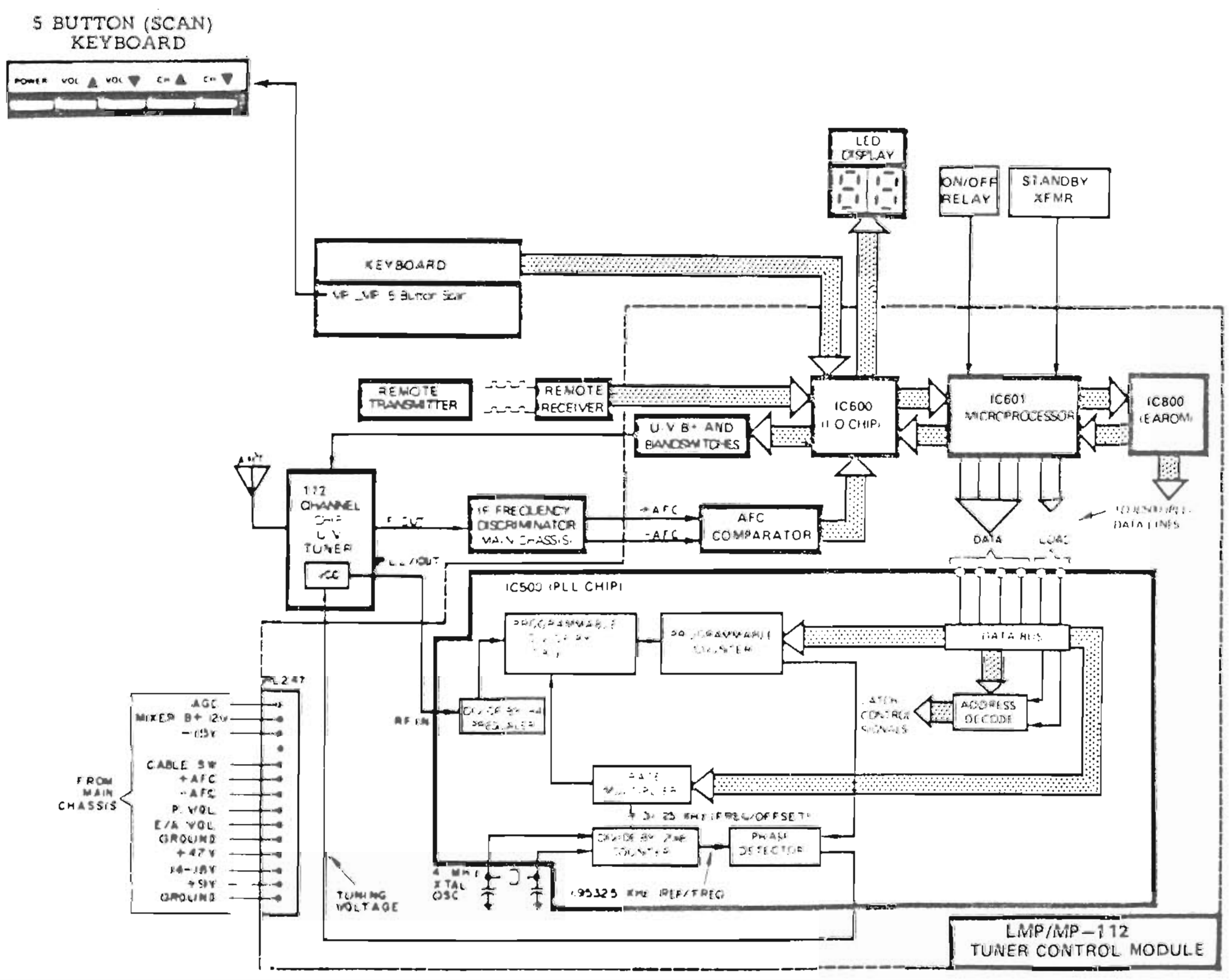
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LMP1A/MP1A–112 TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)



NOTE: THE TUNER CONTROL MODULE USED IN THIS RECEIVER MAY BE EITHER A LMP1A/MP1A–112 TYPE PART NUMBER EP93X538 OR A LMP112 TYPE PART NUMBER EP93X470. ALL OTHER TUNING SYSTEM COMPONENTS ARE THE SAME. SCHEMATIC DIAGRAMS SHOWN ON THE OPPOSITE SIDE ARE FOR BOTH SYSTEMS INDICATING ONLY THE PLL CIRCUITRY (IC500) WHICH IS DIFFERENT FOR EACH TUNER CONTROL MODULE.

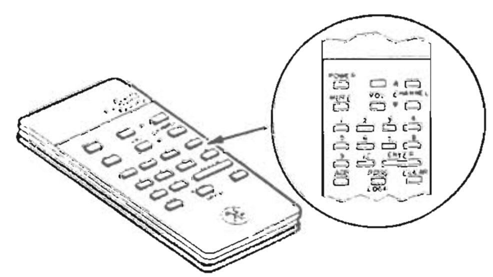
LMP1A/MP1A–112 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM



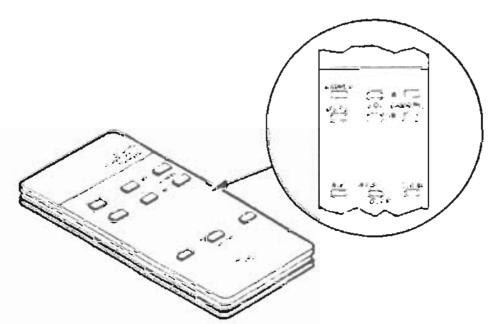
LMP/MP–112 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM



LMP/MP–112 REMOTE RECEIVER

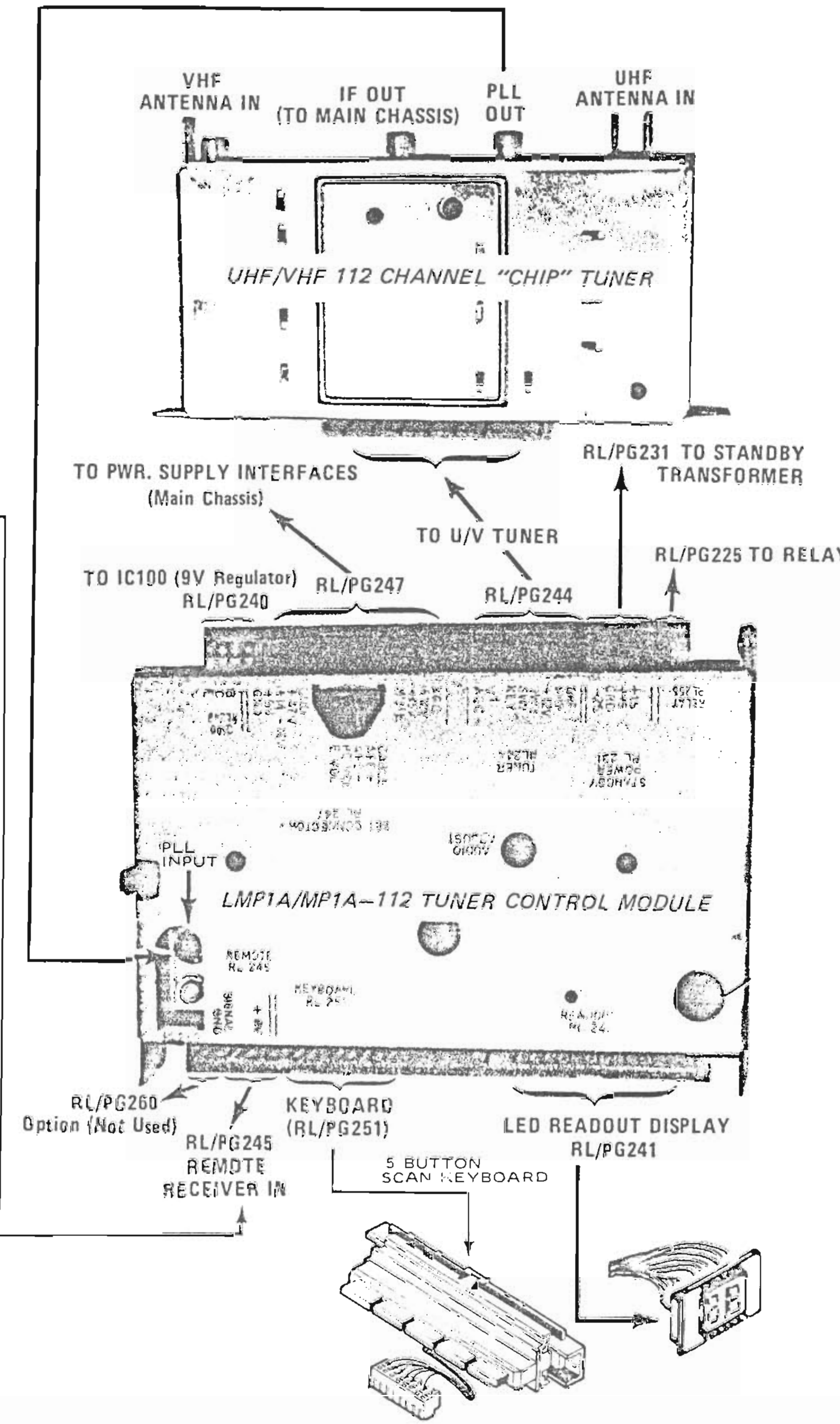


MP–112 REMOTE TRANSMITTER



LMP–112 REMOTE TRANSMITTER

LMP1A/MP1A–112 TUNING SYSTEM COMPONENT ASSEMBLIES



LMP1A/MP1A–112 TUNING SYSTEM COMPONENT ASSEMBLIES

LMP1A/MP1A–112 TUNING SYSTEM TROUBLESHOOTING INFORMATION

General: To help troubleshoot the 112 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247. (Check +15V only if IC regulator is included with tuner control module)
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (–) 27V supply to IC800, EAROM.
3. Check RL225, pin 1 for ON/OFF Relay B+ 13 to 17VDC.
4. Check RL245, pin 1 for Remote Receiver B+ 7.5 to 8.5 VDC.

NOTE:

RL225 Pin 1, +15 V must be correct before the set will switch on. If supplies are OK, the On/OFF relay may be forced on by grounding pin 2 of RL/PG225 through a 100 ohm, ½ watt resistor. Replace Q614 if necessary, otherwise inspect TV power supplies

5. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check:

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC800 (EAROM)
6. IC500 (PLL CHIP)

Categorized Symptoms

- No Remote control (Keyboard works OK).
  (Note: LMP/MP Keyboard follows favorite/sequential action of transmitter(5 button keyb'd)
  Check Transmitter
- Dark Raster (LED Readout Display OK)
  Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
  Check Bandswitch Transistors
- No Channel, No Keyboard or Remote operation with Relay forced ON (LMP/MP)
  Check Microprocessor (IC601)
- No Last Channel or Favorite Channel Memory during power failure.
  Check IC800
- Readout Display OK, but Channels Off-Frequency
  Check Bandswitch voltage, if OK, check IC500 (PLL Chip).

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microproessor

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry.

Check the IF per Main Chassis troubleshooting chart IF OK, PROCEED TO ELECTRONIC TUNING TROUBLESHOOTING INFO. FOR POSSIBLE SOLUTION TO THE PROBLEM

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH.1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

LMP1A/MP1A–112 ELECTRONIC TUNING SYSTEM REPLACEMENT PARTS LIST

LMP112 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
★ R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
★ PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	SEE MODEL PAGE	CHANNEL READOUT DISPLAY-Green
	SEE MODEL PAGE	KEYBOARD-On/Off, Vol., Channel Select
	EP93X470	LMP112 TUNER CONTROL BOARD
	EP93X475	REMOTE CONTROL RECIEVER
	EP62X164	REMOTE CONTROL TRANSMITTER ASM.
	★ EP41X130	RELAY
	★ EP93X394	RELAY CIRCUIT BOARD-Bare
	★ EP93X415	UHF/VHF TUNER

LMP1A/MP1A–112 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
★ R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

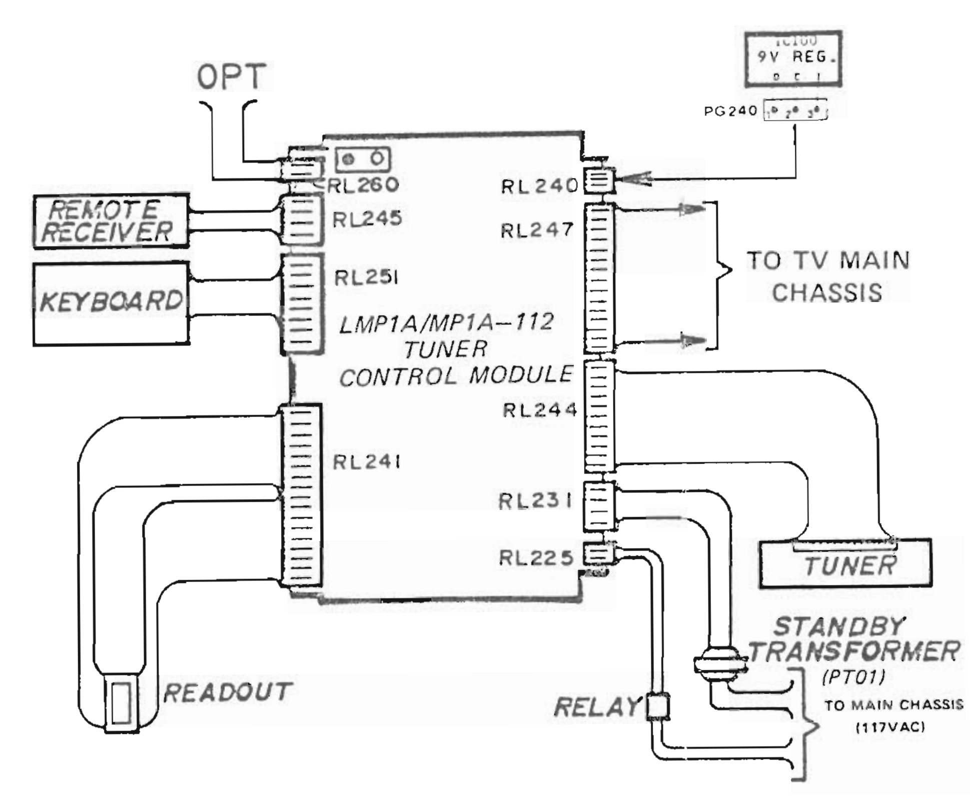
REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
	★ EP41X132	RELAY
★ PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

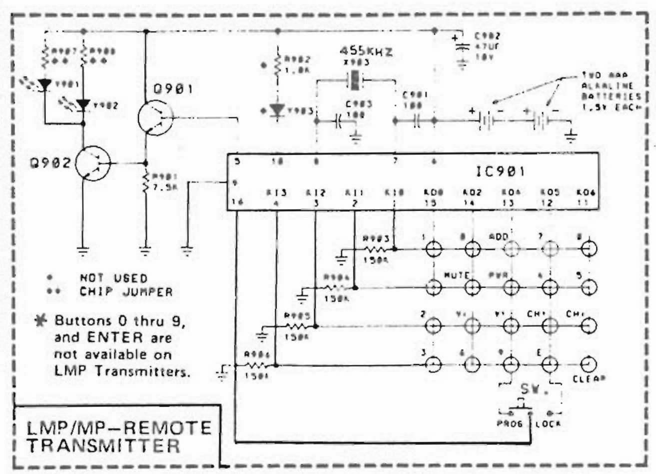
REF. NO.	PART NO.	DESCRIPTION
	EP8X125	CABLE-Coaxial, 36" W/Phono Plugs
	SEE MODEL PAGE	CHANNEL NUMBER READOUT DISPLAY-Green
RL2	EP8X90	CONNECTOR-3 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL7	EP8X93	CONNECTOR-5 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-4 Pos.
RL244	EP8X91	CONNECTOR-4 Pos.
RL250	EP8X43	CONNECTOR-2 Pins

SEE MODEL PAGE	I
EP93X538	I
★ EP93X544	F
EP62X164	F
EP93X480	F
★ EP93X415	L

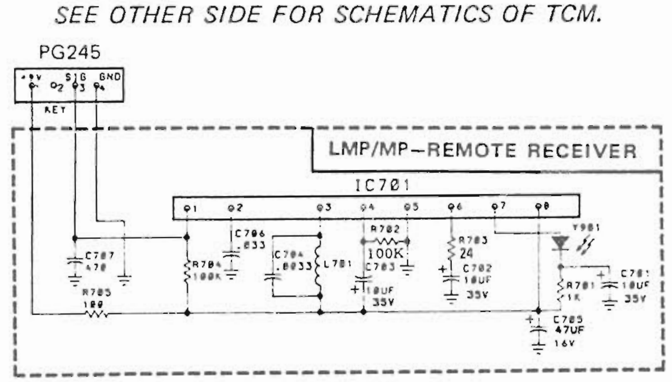
LMP1A/MP1A–112 TUNER CONTROL MODULE PLUG LOCATIONS



LMP1A/MP1A–112 TUNER CONTROL MODULE PLUG LOCATIONS



SEE OTHER SIDE FOR SCHEMATICS OF TCM.



TUNER CONTROL MODULES LMP112 (EP93X470), AND LMP1A/MP1A–112 (EP93X538)

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG. 9V
IC500	EP84X243	PLL/PRESCALE (LMP1A/MP1A)
IC500	EP84X220	PLL/Prescale (LMP112)
IC600	EP84X222	CUSTOM Interface
IC601	EP84X244	LMP 1A 112 Control (Microprocessor)
IC601	EP84X235	LMP112 Control (Microprocessor)
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X57	PNP, Silicon
Q602	EP15X57	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y500	ES16X27	Silicon
Y501	ES16X	
Y502	ES16X	
Y600	ES16X	
Y601	ES16X	
Y603	EP16X	
Y604	ES16X	
Y605	ES16X	
Y607	ES16X	
Y608	ES16X	
Y609	ES16X	
Y800	EP16X	

REF. NO.	PART
L500	EP36X
L501	EP36X
L502	EP36X
X500	EP41X

PART
EP34X

NOTE: THE TUNER CONTROL MODULE USED IN THIS RECEIVER MAY BE EITHER A LMP1A/MP1A–112 T NUMBER EP93X538 OR A LMP112 TYPE PART NUMBER EP93X470. ALL OTHER TUNING SYSTEM COMPON THE SAME. SCHEMATIC DIAGRAMS SHOWN ON THE OPPOSITE SIDE ARE FOR BOTH SYSTEMS INDICATI THE PLL CIRCUITRY (IC500) WHICH IS DIFFERENT FOR EACH TUNER CONTROL MODULE.

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PART AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED ED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHE USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATI FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

...IG SYSTEM TROUBLESHOOTING INFORMATION

...leshooting Order

...er of probability after checking power ...es, wires, cable switch, Remote ...nitter and Remote Receiver, check:

...r/Bandswitch transistors
...oprocessor (IC601)
...oard
...O (I/O) Chip
...O (EAROM)
...O (PLL CHIP)

...orized Symptoms

...Remote control (Keyboard works OK).
...e: LMP/MP Keyboard follows favorite/se-...ntial action of transmitter's button keybd)
...ck Transmitter
...: Raster (LED Readout Display OK)
...ck U/V Tuner
...wy Raster (UHF or VHF only, VHF Hi/Lo or ...e only)
...ck Bandswitch Transistors
...Channel, No Keyboard or Remote operation ...Relay forced ON (LMP/MP)
...ck Microprocessor (IC601)
...Last Channel or Favorite Channel Memory ...ng power failure.
...ck IC800
...dout Display OK, but Channels Off-...uency
...ck Bandswitch voltage, if OK, check IC500 ...Chip)

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry.

Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED TO ELECTRONIC TUNING TROUBLESHOOTING INFO. FOR POSSIBLE SOLUTION TO THE PROBLEM

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH 1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

LMP1A/MP1A–112 ELECTRONIC TUNING SYSTEM REPLACEMENT PARTS LIST

LMP112 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
★ R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
★ PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	SEE MODEL PAGE	CHANNEL READOUT DISPLAY-Green
	SEE MODEL PAGE	KEYBOARD-On/Off, Vol., Channel Select
	EP93X470	LMP112 TUNER CONTROL BOARD
	EP93X475	REMOTE CONTROL RECIEVER
	EP62X164	REMOTE CONTROL TRANSMITTER ASM.
	★ EP41X130	RELAY
	★ EP93X394	RELAY CIRCUIT BOARD-Bare
	★ EP93X415	UHF/VHF TUNER

LMP1A/MP1A–112 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
★ R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

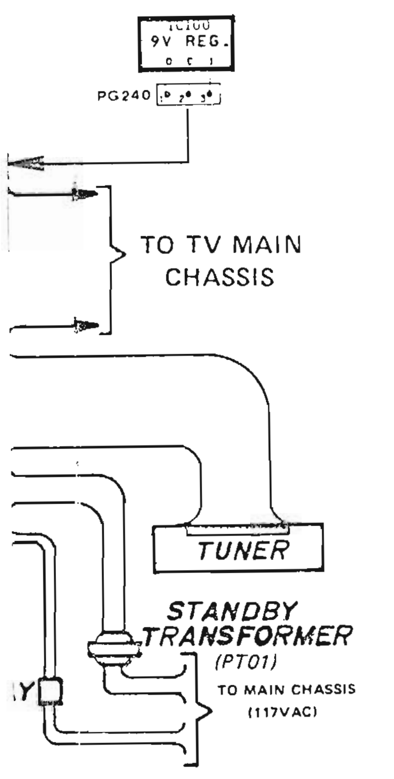
REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
	★ EP41X132	RELAY
★ PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

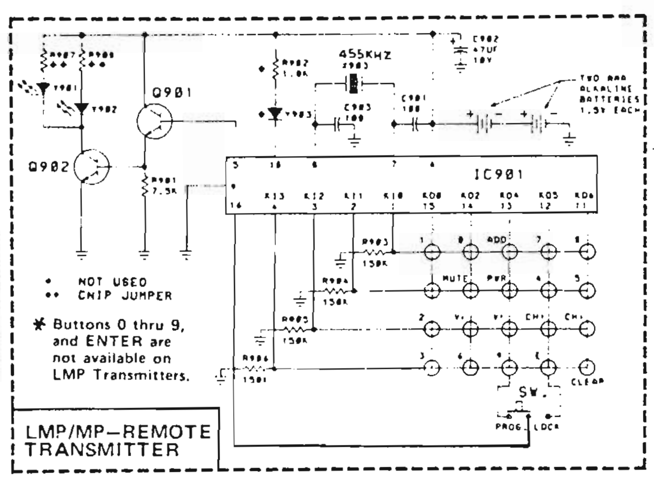
REF. NO.	PART NO.	DESCRIPTION
	EP8X125	CABLE-Coaxial, 36" W/Phono Plugs
	SEE MODEL PAGE	CHANNEL NUMBER READOUT DISPLAY-Green
RL2	EP8X90	CONNECTOR-3 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL7	EP8X93	CONNECTOR-5 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-4 Pos.
RL244	EP8X91	CONNECTOR-4 Pos.
RL250	EP8X43	CONNECTOR-2 Pins

PART NO.	DESCRIPTION
SEE MODEL PAGE	KEYBOARD-On/Off, Vol., & Channel Select
EP93X538	LMP 1A 112 TUNER CONTROL CIRCUIT BOARD
★ EP93X544	RELAY CIRCUIT BOARD-Bare
EP62X164	REMOTE CONTROL TRANSMITTER
EP93X480	REMOTE RECEIVER CIRCUIT BOARD
★ EP93X415	UHF/VHF TUNER (112 Channel)

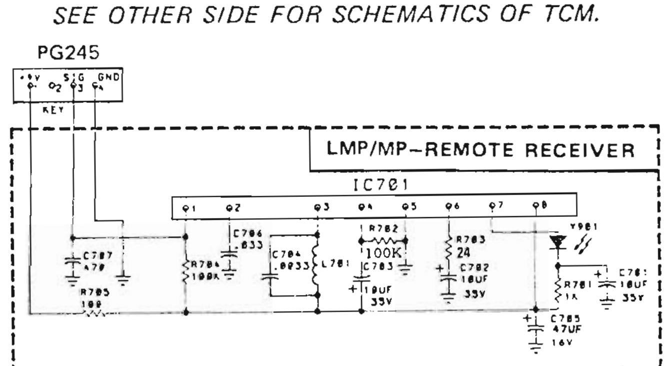
...DULE PLUG LOCATIONS



...DULE PLUG LOCATIONS



SEE OTHER SIDE FOR SCHEMATICS OF TCM.



TUNER CONTROL MODULES LMP112 (EP93X470), AND LMP1A/MP1A–112 (EP93X538)

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG. 9V
IC500	EP84X243	PLL/PRESCALE (LMP1A/MP1A)
IC500	EP84X220	PLL/Prescale (LMP112)
IC600	EP84X222	CUSTOM Interface
IC601	EP84X244	LMP 1A 112 Control (Microprocessor)
IC601	EP84X235	LMP112 Control (Microprocessor)
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X37	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X57	PNP, Silicon
Q602	EP15X57	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%
X500	EP41X68	CRYSTAL-Qtz. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC1...

NOTE: THE TUNER CONTROL MODULE USED IN THIS RECEIVER MAY BE EITHER A LMP1A/MP1A–112 TYPE PART NUMBER EP93X538 OR A LMP112 TYPE PART NUMBER EP93X470. ALL OTHER TUNING SYSTEM COMPONENTS ARE THE SAME. SCHEMATIC DIAGRAMS SHOWN ON THE OPPOSITE SIDE ARE FOR BOTH SYSTEMS INDICATING ONLY THE PLL CIRCUITRY (IC500) WHICH IS DIFFERENT FOR EACH TUNER CONTROL MODULE.

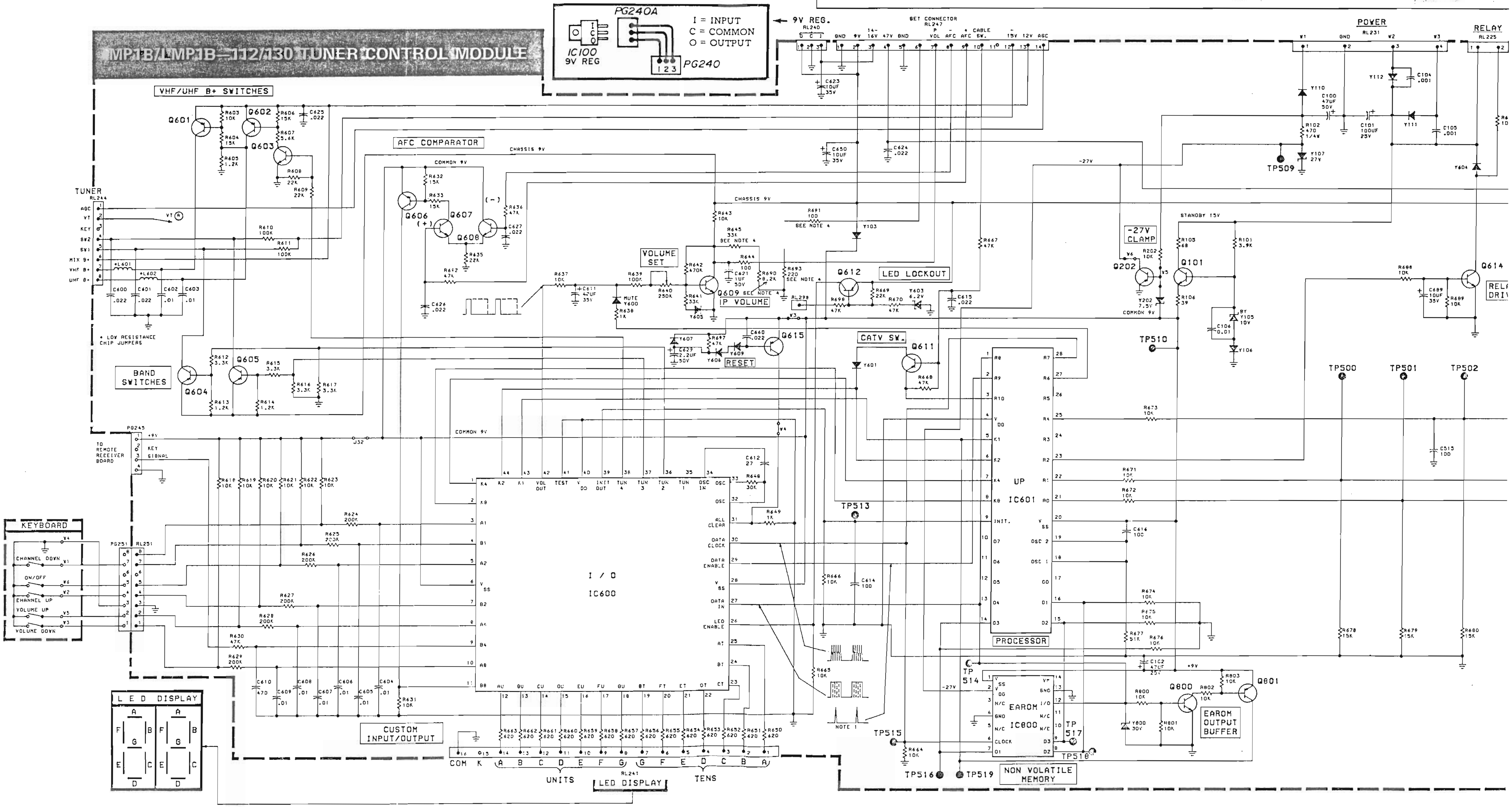
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

73E261923–

MP1B/LMP1B–112/130 ELECTRONIC TUNING SYSTEM

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacem of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.



UNING SYSTEM

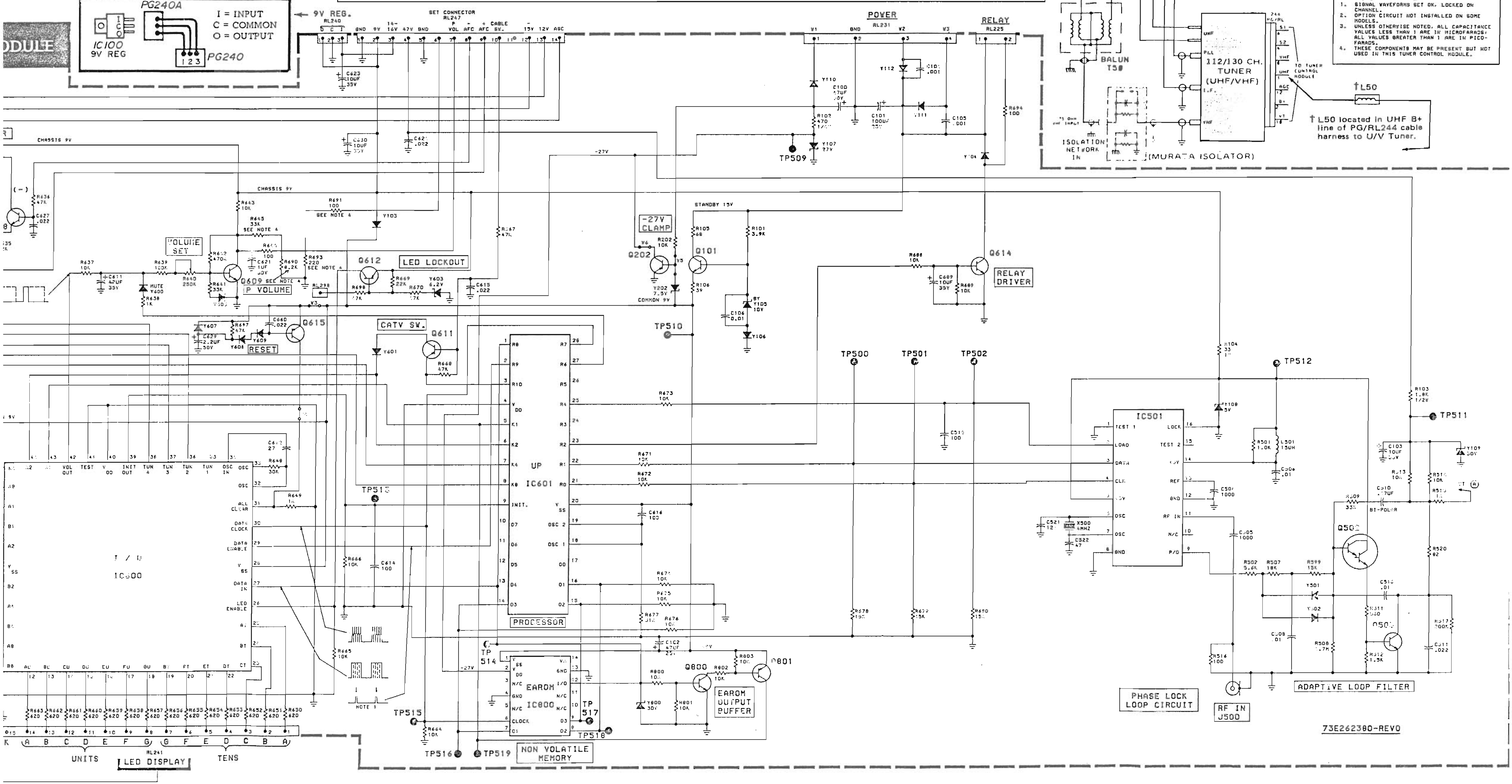
IMPORTANT SAFETY NOTICE

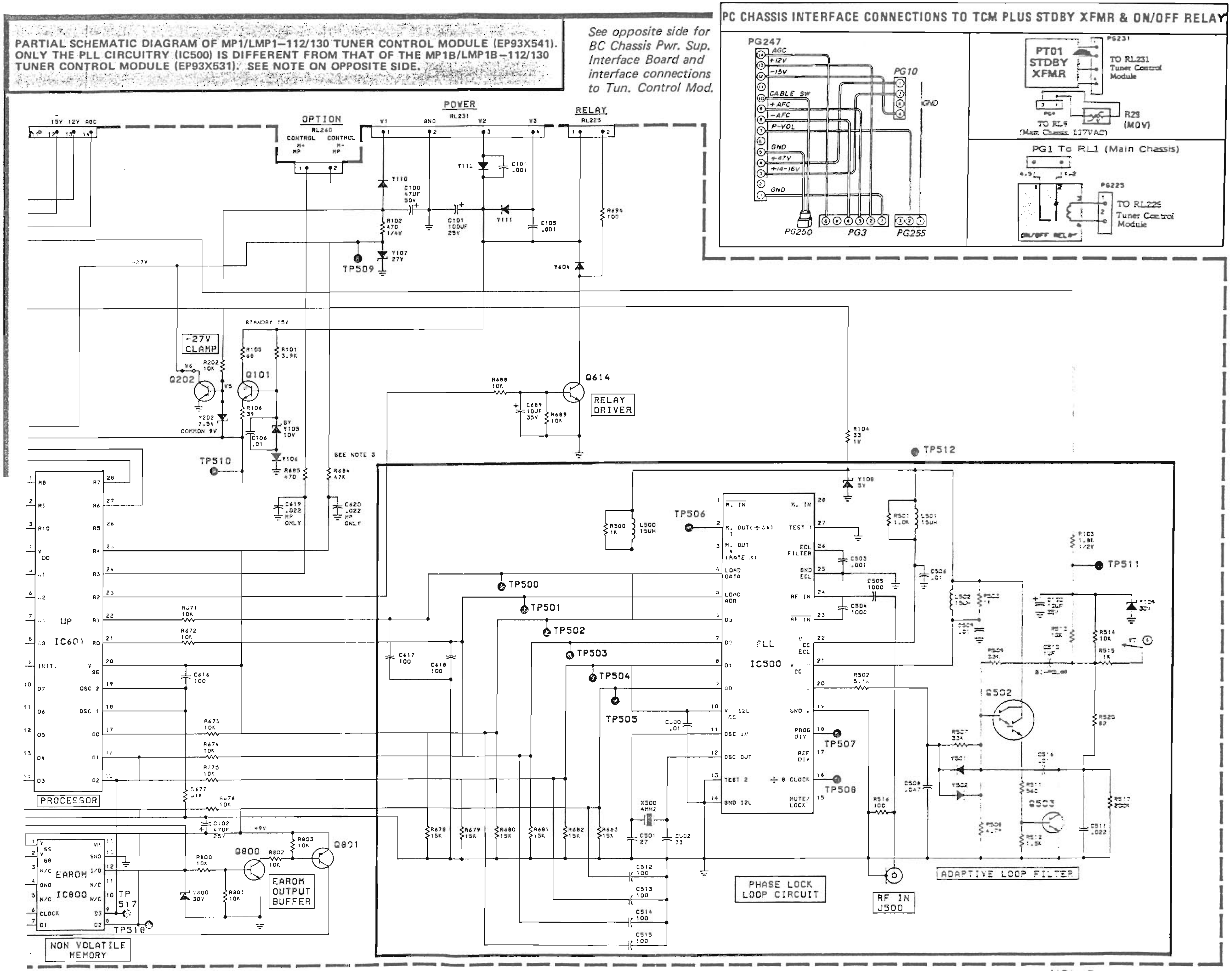
Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

NOTES

MP1-B / LMP1-B

1. SIGNAL WAVEFORMS SET ON, LOCKED ON CHANNEL.
2. OPTION CIRCUIT NOT INSTALLED ON SOME MODELS.
3. UNLESS OTHERWISE NOTED, ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS; ALL VALUES GREATER THAN 1 ARE IN PICO-FARADS.
4. THESE COMPONENTS MAY BE PRESENT BUT NOT USED IN THIS TUNER CONTROL MODULE.





PARTIAL SCHEMATIC DIAGRAM OF MP1/LMP1–112/130 TUNER CONTROL MODULE (EP93X541). ONLY THE PLL CIRCUITRY (IC500) IS DIFFERENT FROM THAT OF THE MP1B/LMP1B–112/130 TUNER CONTROL MODULE (EP93X531). SEE NOTE ON OPPOSITE SIDE.

See opposite side for BC Chassis Pwr. Sup. Interface Board and interface connections to Tun. Control Mod.

MP1B/LMP1B–112/130 "REMOTE" ELECTRONIC TUNING SYSTEM

MINI-MANUAL

SERVICE INFORMATION FOR TECHNICIAN USE ONLY

ACCESSIBLE FROM INSIDE TV SET ONLY

73E261924—2

NOTICE TO TECHNICIAN:

THIS MINI–MANUAL IS CUSTOMER PROPERTY. PLEASE RETURN TO SET WHEN SERVICING IS COMPLETED.

112/130 CHANNEL ELECTRONIC TUNING SYSTEM TROUBLESHOOTING INFORMATION

General: To help troubleshoot the 112/130 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Preliminary
Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247. Check +15V only if IC100 (9V Regulator) is included with tuner control module).
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (−) 27V supply to IC800, (EAROM).
3. Check RL225, pin 1 for ON/OFF Relay B+ 13 to 17VDC.
4. Check RL245, pin 1 for Remote Receiver B+ 7.5 to 8.5 VDC.

NOTE

RL225 Pin 1, +15 V must be correct before the set will switch on. If supplies are OK, the ON/OFF relay may be forced on by grounding pin 2 of RL/PG225 through a 100 ohm, ½ watt resistor. Replace Q614 if necessary, otherwise inspect TV power supplies.

Troubleshooting Order
In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check:

1. Tuner/Bandswitch transistors (Q601-Q605)
2. IC601 (Microprocessor)
3. Keyboard
4. IC600 (I/O)
5. IC800 (EAROM)
6. IC500 (PLL)

Categorized Symptoms

- No Remote Control (Keyboard OK). Note: Scan Keyboards follow favorite/sequential action of transmitter.
  Check Transmitter
- Dark Raster (LED Display OK)
  Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
  Check Bandswitch Transistors (Q601-Q605)
- No Channel, No Keyboard or Remote operation with Relay forced ON (Remote Systems only)
  Check IC601 (Microprocessor)
- No Last Channel or Favorite Channel Memory during power failure.
  Check IC800 (EAROM)
- LED Display OK (Channels Off-Frequency)
  Check Bandswitch voltages, if OK, check IC 500 (PLL Chip).
- Picture OK (Channel LED Display Incorrect)
  Check IC600 (I/O), IC601(uP) and LED Display
- No Picture (Channel LED Display OK)
  Check U/V Tuner, Video IF (Main Chassis), Standby Power Supply, IC601 (uP) IC500 (PLL) and associated circuitry.
- No Picture (Channel LED Display Incorrect)
  Check Keyboard, IC600 (I/O) and IC601 (uP)

* Before proceeding:
Check the Main Chassis Video IF. If OK, proceed to U/V Tuner Check below.

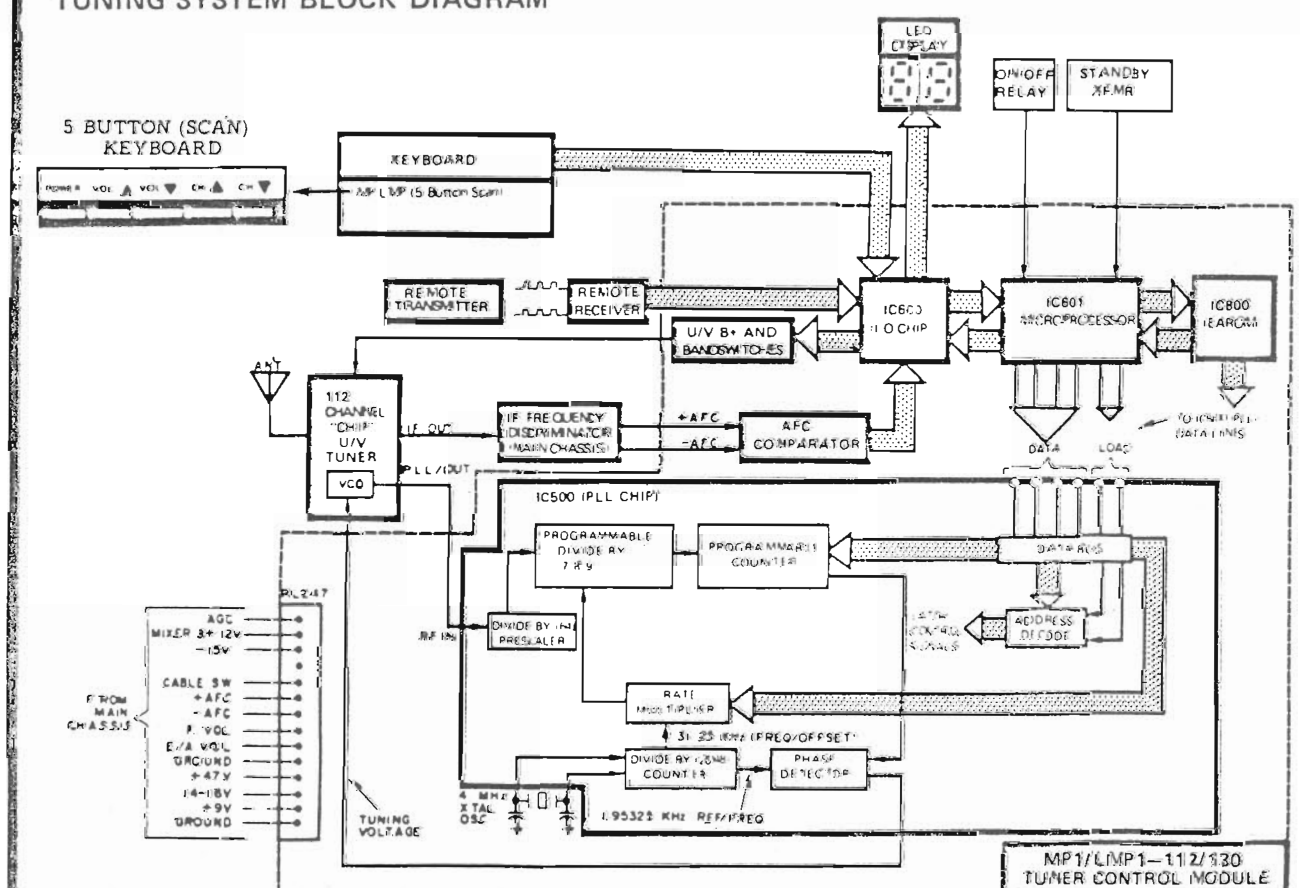
U/V TUNER CHECK: (No Picture, Channel LED Display OK)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels; CH. 1 (28V), 6 (20V), 13 (19V), 33 (6.5V) and 82 (26V). The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28VDC at RL244, Pin 2) and connect end of a potentiometer (10K – 15K) to the tuning voltage terminal (yellow wire). Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective (replace U/V Tuner).

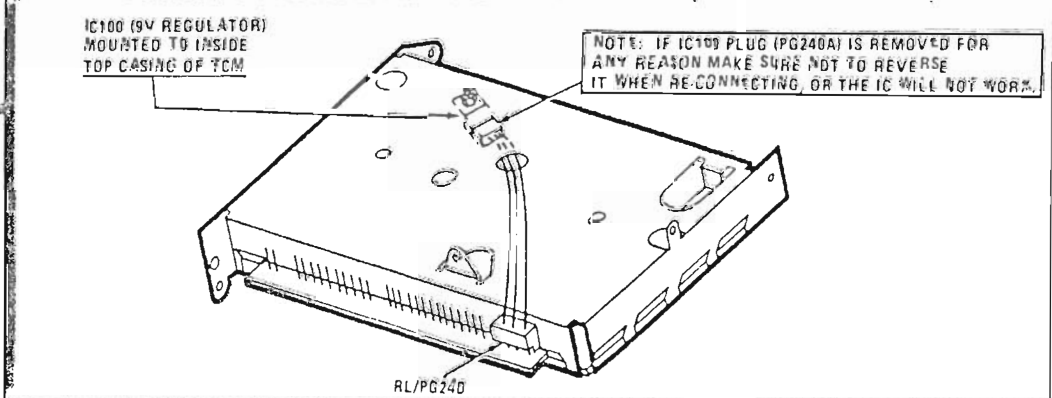
If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

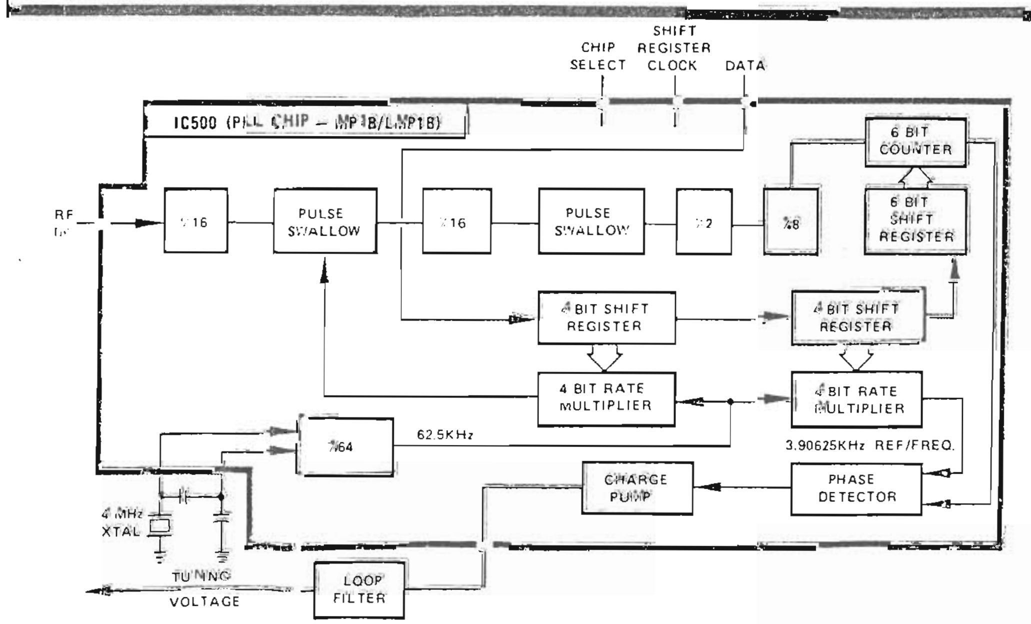
NOTE: THE TUNER CONTROL MODULE USED IN THIS RECEIVER MAY BE EITHER A MP1B/LMP1B–112/130 TYPE PART NUMBER EP93X531 OR MP1/LMP1–112/130 TYPE PART NUMBER EP93X541. ALL OTHER TUNING SYSTEM COMPONENTS ARE THE SAME. SCHEMATIC DIAGRAMS SHOWN ON THE OPPOSITE SIDE ARE FOR BOTH SYSTEMS INDICATING ONLY THE PLL CIRCUITRY (IC500) WHICH IS DIFFERENT FOR EACH TUNER CONTROL MODULE.

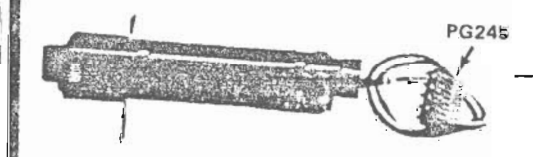
TUNING SYSTEM BLOCK DIAGRAM



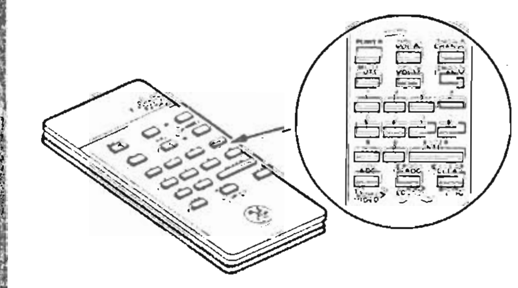
TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)



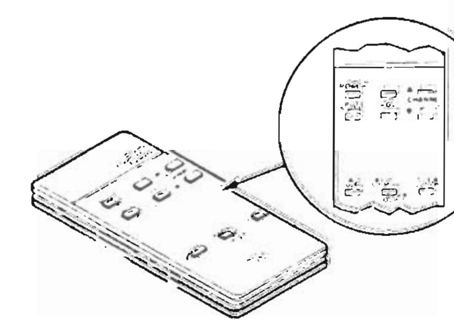




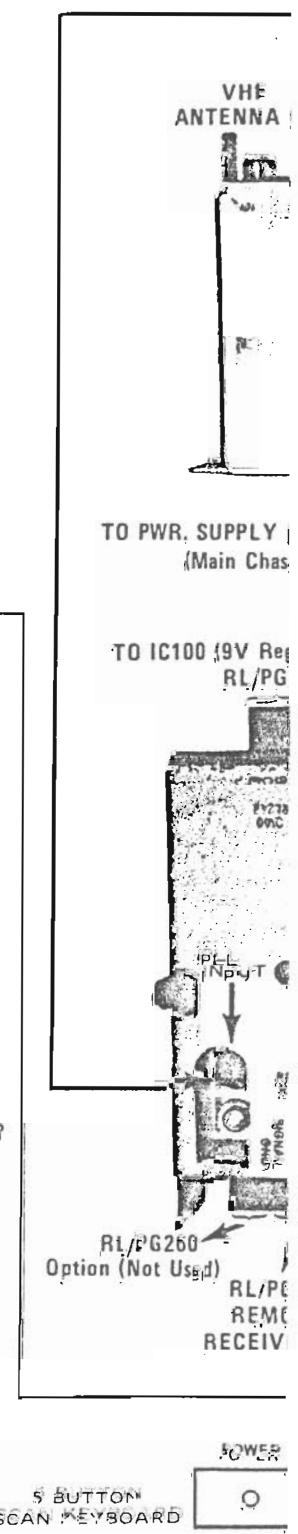
112/130 REMOTE RECEIVER



"DUAL MODE" REMOTE TRANSMITTER



"SCAN" REMOTE TRANSMITTER



112/130 CHANNEL ELECTRONIC TUNING SYSTEM TROUBLESHOOTING INFORMATION

General: To help troubleshoot the 112/130 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Preliminary
Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Power Supplies
1. Do not unplug, but do check all voltages at RL/PG247. Check +15V only if IC100 (9V Regulator) is included with tuner control module).
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (−) 27V supply to IC800, (EAROM).
3. Check RL225, pin 1 for ON/OFF Relay B+ 13 to 17VDC.
4. Check RL245, pin 1 for Remote Receiver B+ 7.5 to 8.5 VDC.

NOTE
RL225 Pin 1, +15 V must be correct before the set will switch on. If supplies are OK, the ON/OFF relay may be forced on by grounding pin 2 of RL/PG225 through a 100 ohm, ½ watt resistor. Replace Q614 if necessary, otherwise inspect TV power supplies.

Troubleshooting Order
In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check:
1. Tuner/Bandswitch transistors (Q601-Q605)
2. IC601 (Microprocessor)
3. Keyboard
4. IC600 (I/O)
5. IC800 (EAROM)
6. IC500 (PLL)

Categorized Symptoms
- No Remote Control (Keyboard OK). Note: Scan Keyboards follow favorite/sequential action of transmitter.
  Check Transmitter

  Dark Raster (LED Display OK)
  Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
  Check Bandswitch Transistors (Q601-Q605)
- No Channel, No Keyboard or Remote operation with Relay forced ON (Remote Systems only)
  Check IC601 (Microprocessor)
- No Last Channel or Favorite Channel Memory during power failure.
  Check IC800 (EAROM)
- LED Display OK (Channels Off-Frequency)
  Check Bandswitch voltages, if OK, check IC 500 (PLL Chip).
- Picture OK (Channel LED Display Incorrect)
  Check IC600 (I/O), IC601(uP) and LED Display
- No Picture (Channel LED Display OK)
  Check * U/V Tuner, Video IF (Main Chassis), Standby Power Supply, IC601 (uP) IC500 (PLL) and associated circuitry.
- No Picture (Channel LED Display Incorrect)
  Check Keyboard, IC600 (I/O) and IC601 (uP)

* Before proceeding:
Check the Main Chassis Video IF. If OK, proceed to U/V Tuner Check below.

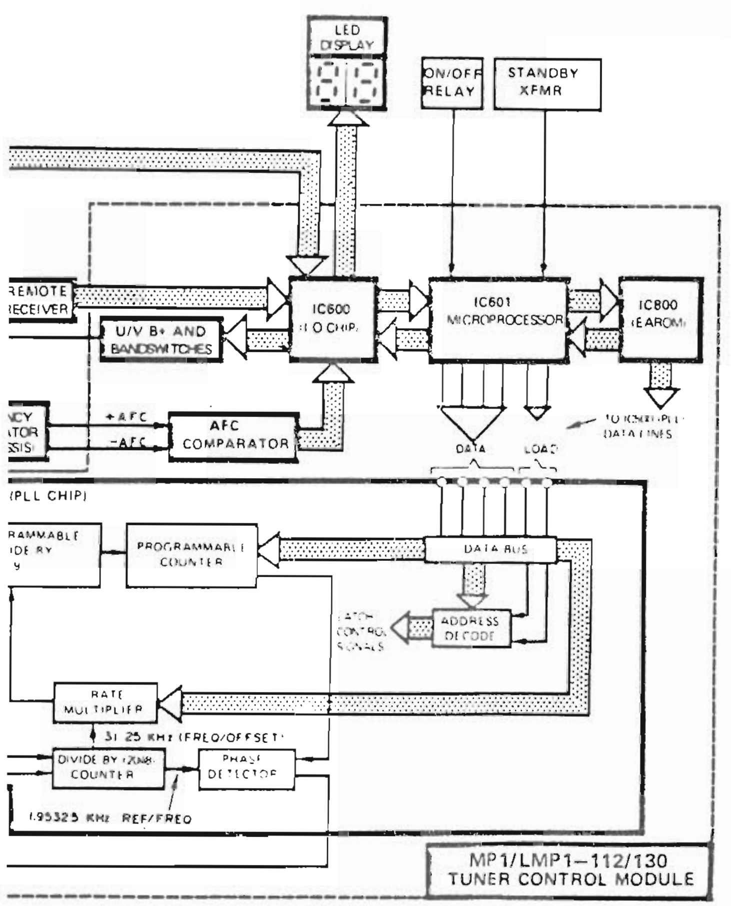
U/V TUNER CHECK: (No Picture, Channel LED Display OK)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels; CH. 1 (28V), 6 (20V), 13 (19V), 33 (6.5V) and 82 (26V). The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28VDC at RL244, Pin 2) and connect end of a potentiometer (10K−15K) to the tuning voltage terminal (yellow wire). Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective (replace U/V Tuner).

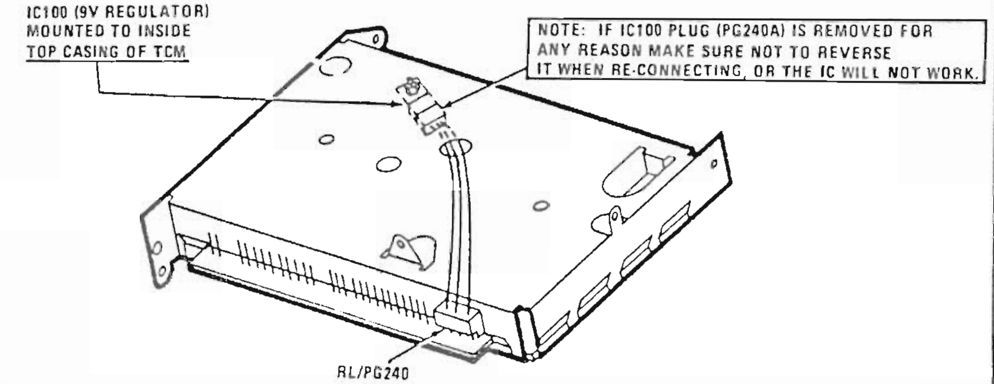
If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

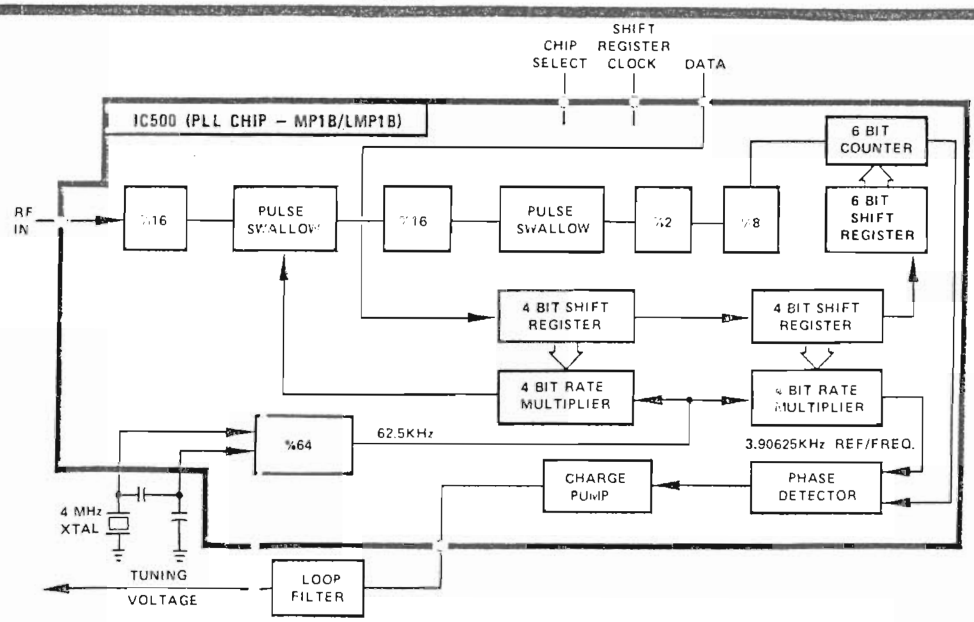
RTY.
G IS

THIS RECEIVER MAY BE EITHER A MP1B/LMP1B−112/130 TYPE TYPE PART NUMBER EP93X541. ALL OTHER TUNING SYSTEM GRAMS SHOWN ON THE OPPOSITE SIDE ARE FOR BOTH SYSTEMS WHICH IS DIFFERENT FOR EACH TUNER CONTROL MODULE.

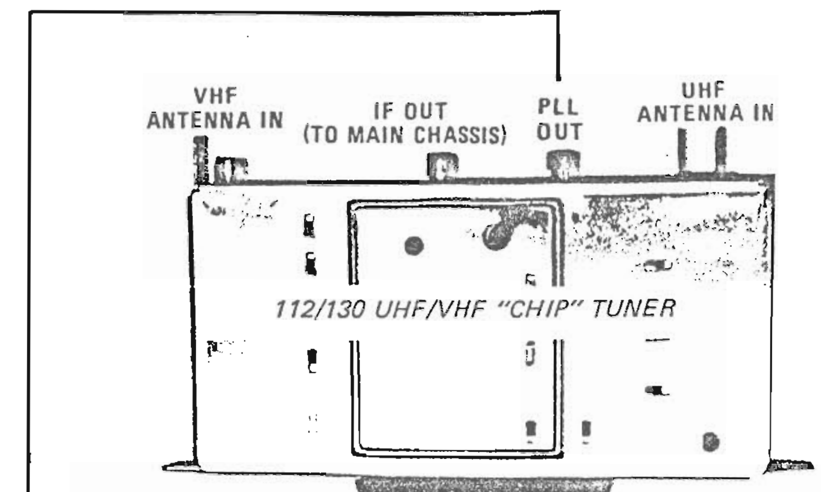


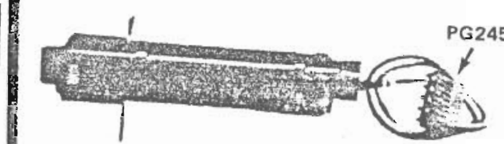
TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)



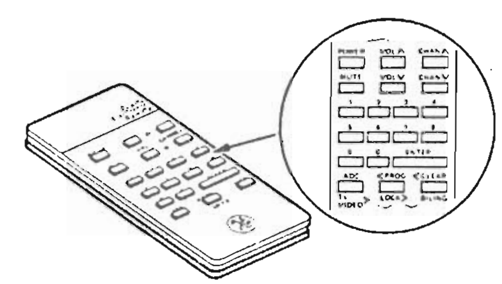


TUNING SYSTEM COMPONENT ASSEMBLIES

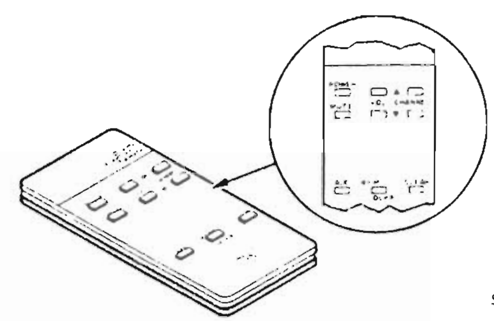




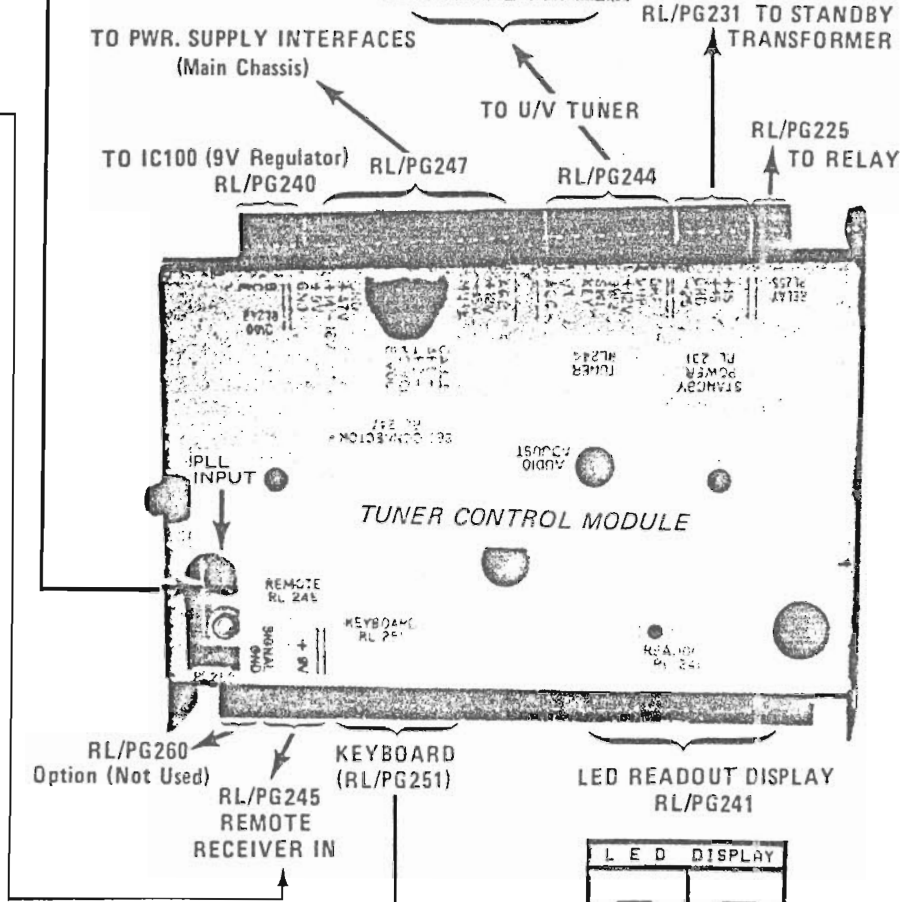
112/130 REMOTE RECEIVER



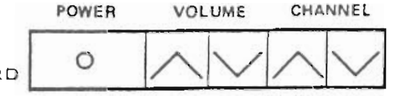
"DUAL MODE" REMOTE TRANSMITTER

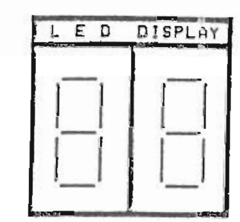


"SCAN" REMOTE TRANSMITTER

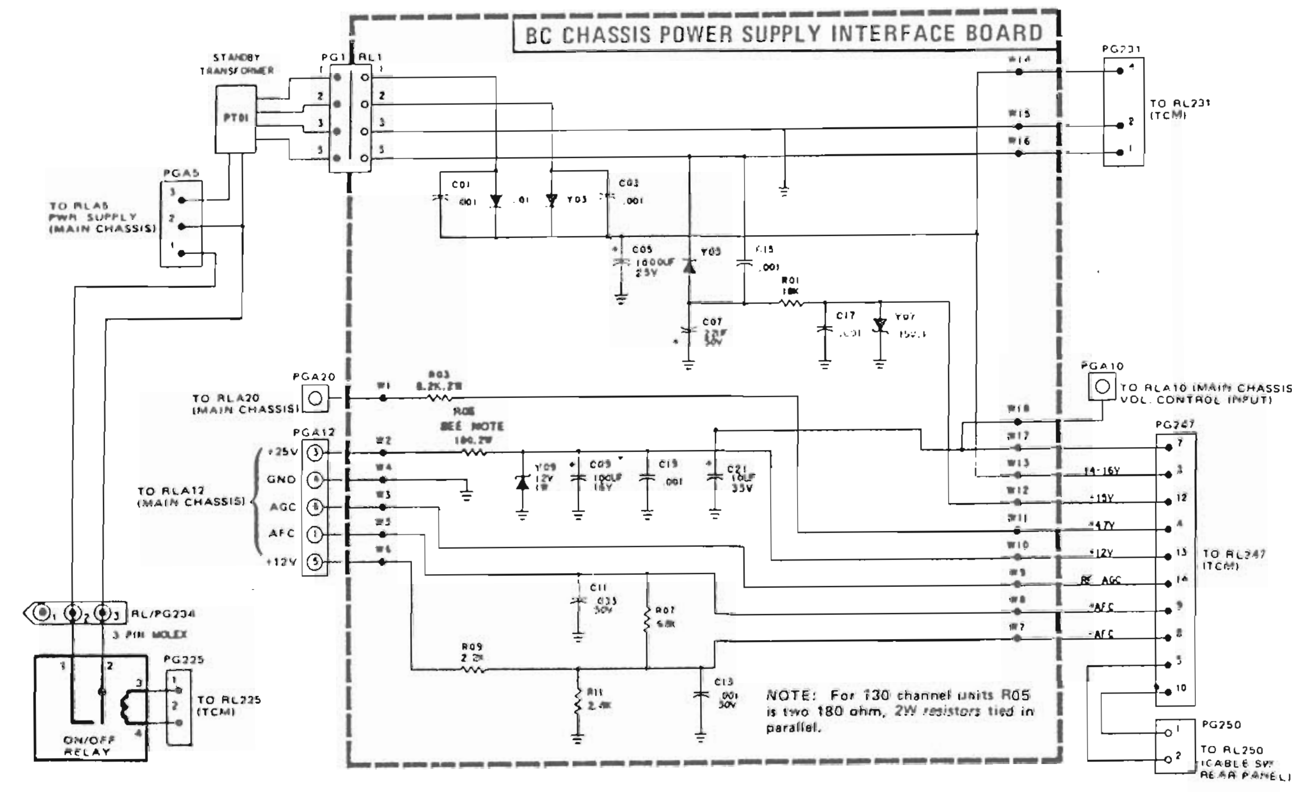


5 BUTTON SCAN KEYBOARD

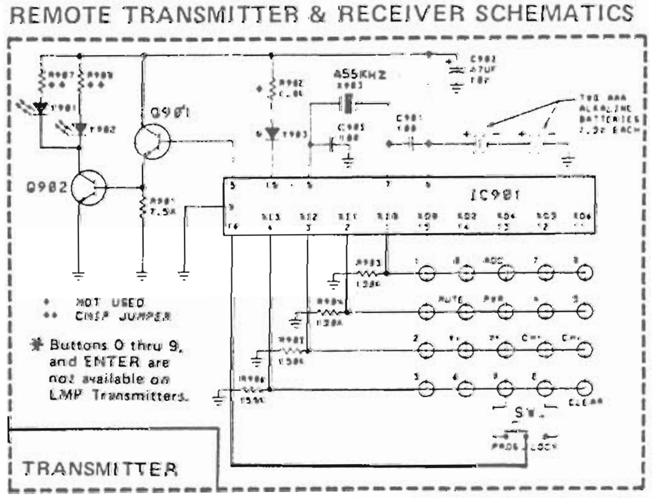




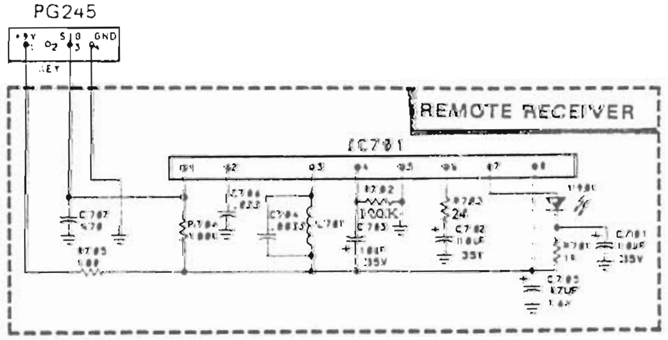
BC CHASSIS POWER SUPPLY INTERFACE SCHEMATIC AND PARTS LIST



REMOTE TRANSMITTER & RECEIVER SCHEMATICS



PG245



BC CHASSIS INTERFACE BOARD PARTS LIST

POWER SUPPLY INTERFACE CIRCUIT BOARD

EP93X499

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C01	EP18X259	1000pf, 20%, 500V, Cer. Disc
C03	EP18X259	1000pf, 20%, 500V, Cer. Disc
C05	EP31X37	1000uf, 20%, 25V, Elect.
C07	EP31X44	22uf, 20%, 50V, Elect.
C09	EP31X162	100uf, 20%, 16V, Elect.
C11	EP25X171	.033uf, 10%, 50V, Polyester
C13	EP18X259	1000pf, 20%, 500V, Cer. Disc
C15	EP18X259	1000pf, 20%, 500V, Cer. Disc
C17	EP18X259	1000pf, 20%, 500V, Cer. Disc
C19	EP18X259	1000pf, 20%, 500V, Cer. Disc
C21	EP31X149	10uf, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R01	Common	18K ohm, 5%, 1/4W, Carbon
* R03	EP14X86	8.2K ohm, 5%, 2W, Metal Oxide
* R05	EP14X346	180 ohm, 5%, 2W, Metal Oxide
R07	EP14X119	68K ohm, 5%, 1/4W, Carbon
R09	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
* R11	Common	2.4K ohm, 5%, 1/4W, Carbon
R13	EP14X104	22K ohm, 5%, 1/4W, Carbon

DIODES

REF. NO	PART NO.	DESCRIPTION
Y01	EP57X4	Rectifier, Silicon
Y03	EP57X4	Rectifier, Silicon
Y05	EP57X4	Rectifier, Silicon
Y07	EP16X52	Zener
Y09	EP16X36	Zener, 1W

MP1B/LMP1B–112/130 AND MP1/LMP1–112/130 TUNING SYSTEMS (COMBINED PARTS LIST)

MP1B/LMP1B–112/130 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
*	EP41X132	RELAY
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X125	CABLE-Coaxial, 36" W/Phono Plugs
	SEE MODEL PAGE	CHANNEL NUMBER READOUT DISPLAY-Green
RL2	EP8X90	CONNECTOR-3 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL7	EP8X93	CONNECTOR-5 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-4 Pos.
RL244	EP8X91	CONNECTOR-4 Pos.
RL250	EP8X43	CONNECTOR-2 Pins
	SEE MODEL PAGE	KEYBOARD-On/Off, Vol., Channel Select
	* EP93X544	RELAY CIRCUIT BOARD-Bare
	EP93X531	MP1B/LMP1B-112/130 TUNER CONTROL BOARD
	EP93X480	REMOTE CONTROL RECEIVER (19")
	EP93X482	REMOTE CONTROL RECEIVER (25")
	SEE MODEL PAGE	REMOTE CONTROL TRANSMITTER ASM.
	* EP93X539	UHF/VHF TUNER (MP1B/LMP1B-112)
	* EP93X502	UHF/VHF TUNER (MP1B/LMP1B-130)

MP1/LMP1-112/130 TUNING SYSTEM

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COIL

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X97	CABLE-Coaxial, From Tuner To Tuner Control Board
RL244B	EP8X91	CONNECTOR-2 Pos.
	EP93X541	MP1/LMP1-112/130 TUNER CONTROL BOARD
	EP93X482	REMOTE CONTROL RECEIVER
	SEE MODEL PAGE	REMOTE CONTROL TRANSMITTER ASM.
	* EP93X539	UHF/VHF TUNER (MP1/LMP1-112)
	* EP93X502	UHF/VHF TUNER (MP1/LMP1-130)

TUNER CONTROL MODULES MP1B/LMP1B–112/130 (EP93X531), AND MP1/LMP1–112/130 (EP93X541)

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL 9V REG.
IC500	EP84X243	PLL/PRESCALE (MP1B/LMP1B)
IC500	EP84X220	PLL/PRESCALE (MP1/LMP1)
IC600	EP84X222	CUSTOM INTERFACE
IC601	EP84X244	MP1B/LMP1B CONTROL MICROPROCESSOR
IC601	EP84X234	MP1/LMP1 CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	-27V Clamp, PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	AFC Comparator, PNP, Silicon
Q607	EP15X88	AFC Comparator, NPN, Silicon
Q608	EP15X88	AFC Comparator, NPN, Silicon
Q609	EP15X88	F Volume, NPN, Silicon
Q610	EP15X88	E/A Volume, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Relay Driver, NPN, Silicon
Q615	EP15X48	Reset, PNP, Silicon
Q800	EP15X87	Earom Output Buffer, NPN, Silicon
Q801	EP15X48	Earom Output Buffer, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X135	Zener, 10V
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%
X500	EP41X68	CRYSTAL-Qtz. Filter

NOTE: THE TUNER CONTROL MODULE USED IN THIS RECEIVER MAY BE EITHER A MP1B/LMP1B–112/130 TYPE PART NUMBER EP93X531 OR MP1/LMP1–112/130 TYPE PART NUMBER EP93X541. ALL OTHER TUNING SYSTEM COMPONENTS ARE THE SAME. SCHEMATIC DIAGRAMS SHOWN ON THE OPPOSITE SIDE ARE FOR BOTH SYSTEMS INDICATING ONLY THE PLL CIRCUITRY (IC500) WHICH IS DIFFERENT FOR EACH TUNER CONTROL MODULE.

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

73E261924-2

MAIN CHASSIS PARTS LIST

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SH AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATAL PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.

USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SI FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

CHASSIS TYPE: PC-A

PRINTED CIRCUIT BOARD ASSEMBLIES

REF. NO.	PART NO.	DESCRIPTION
M100-300		
500-700		
900		Main Circuit Board
M400	EP93X377	RGB Board
M1900	EP93X348	Horiz. Heat Sink Board
MM	EP93X382	Color Averaging
MV	EP93X381	VIR Board

CHASSIS

PARTS NOT LISTED ON MAIN CIRCUIT BOARD

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C30	EP31X45	47uf, 10%, 25V, Elect.
C62	ES25X22	.01uf, 20%, 50V, Polyester
C90	EP31X149	10uf, 10%, 35V, Elect.
C95	EP31X149	10uf, 10%, 35V, Elect.
C232	EP31X147	47uf, +50-10%, 180V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X154	22 ohm, 5%, 1W, Carbon
R10	EP14X54	18 ohm, 5%, 1W, Carbon
R128	EP14X48	10 ohm, 5%, 2W, Metal Oxide
R129	ES14X58	470 ohm, 5%, ¼W, Carbon
R130	EP14X105	100K ohm, 5%, ¼W, Carbon
R232	EP14X319	8.6K ohm, 5%, 3W, Flame Proof
R233	EP14X261	3K ohm, 5%, 2W, Metal Oxide

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz. Centering

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q100	ES15X125	NPN, Silicon
Q1901	EP15X218	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y129	EP16X155	Zener
Y130	EP57X5	Rectifier, Silicon
Y232	EP57X4	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
	EP36X445	COIL - Degaussing
L1901	EP36X443	COIL - Width
	EP42X8	CONVERGENCE ASM.
	EP76X30	YOKE
★ T701	EP77X56	TRANSFORMER - H.V.
★ T1901	EP36X444	COIL - Pincushion Asm.
	EP2X545	CLIP - Chassis Mounting
	EP2X546	CLIP - CRT Ground Terminal

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	75/300 ohm Adapter (Antenna)
	EP2X544	BRACKET - Ckt. Bd. Support, Plastic
	EP2X543	BRACKET - H.V.T. Brace, Plastic
	EP2X542	BRACKET - Color & VIR Board Support, Plastic
	EP8X97	CABLE - Coaxial, VHF to UHF
	EP8X103	CABLE - ET91 to VHF & KMP to VHF
	EP8X124	CABLE - ET91 to UHF & KMP to UHF
	EP3X4	CLIP - Upper CRT Bkt—Tuner
	EP2X548	CLIP - Anode Retainer
RL1	EP8X93	CONNECTOR - 5 Pos.
RL3	EP8X71	CONNECTOR - 6 Pos.
RL6	EP8X66	CONNECTOR - 7 Pos.
RL7	EP8X68	CONNECTOR - 2 Pos.
RL9	EP8X90	CONNECTOR - 3 Pos.
RL10	EP8X90	CONNECTOR - 3 Pos. (ET91/KMP91)
RL10	EP8X94	CUNNECTOR - 3 Pos. (Direct/LMP91)
PG12	EP8X30	CONNECTOR - 1 Pin
RL16A	EP8X66	CONNECTOR - 7 Pos.
RL17	EP8X90	CONNECTOR - 5 Pos.
RL28	EP8X42	CONNECTOR - 4 Pins
RL60	EP8X43	CONNECTOR - 2 Pins
	★ EP66X19	CORD - AC Power, Polarized, Wired -In-Type
	EP3X41	CUSHION - Yoke Wedge
	EP92X101	FRAME - Front & Sides, For Main Board, Plastic
	EP92X102	FRAME - Rear Support, For Main Board, Plastic
★ F901	EP10X19	FUSE - 4 amp, 250V, Snap-In, Fast Acting
F903	EP10X55	FUSE - 1.25 amp. 250 V, Snap-In, Slow Blow
	EP34X65	SOCKET - CRT
	EP2X534	SPRING - Ground, CRT
	EP2X535	STRAPS - Degaussing Coil Adjust
	EP90X3	WIRE TIE

CH-1-V1

ANTENNA TERMINAL BRACKET

EP37X54

PART NO.	DESCRIPTION
ES3X29	CLIP - Antenna Terminal
EP2X540	CLIP - Power Cord Retainer
EP51X6	ISOLATION - Transformer, Coaxal Cable

ANTENNA TERMINAL BOARD ASM.

EP37X53

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
★ C20	EP18X127	470pf, 20%, 125V, Cer. Disc.
★ C21	EP18X127	470pf, 20%, 125V, Cer. Disc.
★ C22	EP18X127	470pf, 20%, 125V, Cer. Disc.
★ C23	EP18X127	470pf, 20%, 125V, Cer. Disc.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
★ R20	EP14X241	1.8 meg ohm, 40%, ½W, Carbon
★ R21	EP14X241	1.8 meg ohm, 40%, ½W, Carbon
★ R22	EP14X241	1.8 meg ohm, 40%, ½W, Carbon
★ R23	EP14X241	1.8 meg ohm, 40%, ½W, Carbon

MISCELLANEOUS

PART NO.	DESCRIPTION
EP51X5	BALUN - 73 to 300 ohms
EP8X98	CABLE - Coaxial, From Antenna to IF
ES3X29	CLIP - Antenna Terminal
EP2X540	CLIP - Power Cord Holder, Plastic

MAIN CIRCUIT BOARD (PC)

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	EP31X138	.47uf, 20%, 50V, Elect.
C106	EP31X159	470uf, +50-10%, 16V, Elect.
C107	EP18X187	27pf, 5%, 50V, Cer. Disc
C108	EP18X191	68pf, 5%, 50V, Cer. Disc
C109	EP18X159	120pf, 5%, NPO, Cer. Disc
C110	EP18X220	1000pf, 10%, 500V SHiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C112	EP18X180	820pf, 10%, 50V, SHiK, Cer. Disc
C113	EP22X32	.01uf, 10%, 50V, HiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C116	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C117	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C118	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C119	EP31X11	4.7uf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C124	EP18X186	22pf, 10%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Elect.
C126	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C127	EP22X32	.01uf, 20%, 50V, Cer. Disc
C135	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X81	1000pf, 10%, 500V, Cer. Disc
C137	EP18X81	1000pf, 10%, 500V, Cer. Disc
C139	EP18X220	1000pf, 10%, 500V, Cer. Disc
C142	EP18X259	1000pf, 20%, 500V, Cer. Disc
C180	EP18X189	47pf, 5%, 50V, Cer. Disc
C182	ES18X82	47pf, 5%, 50V, Cer. Disc
C183	EP25X87	.047uf, 10%, 50V, Polyester
C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C185	EP31X149	10uf, 20%, 35V, Elect.
C186	EP25X130	.022uf, 10%, 50V, Polyester
C187	EP18X168	1000pf, 10%, 50V, SHiK, Cer. Disc
C188	EP25X146	.033uf, 10%, 200V, Mylar
C189	EP31X149	10uf, 20%, 35V, Elect.
C190	EP31X149	10uf, 20%, 35V, Elect.
C191	EP18X170	.015uf, 10%, 25V, Cer. Disc
C192	EP18X168	1000pf, 10%, 500V SHiK, Cer. Disc
C193	EP18X192	150pf, 5%, 50V, NPO, Cer. Disc
C194	EP31X152	2.2uf, +50-20%, 250V, Elect.
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
C196	EP31X153	22uf, +50-20%, 160V, Elect.
C197	EP31X11	4.7uf, 20%, 35V, Elect.
C198	EP31X149	10uf, 20%, 35V, Elect.
C199	EP18X169	.01uf, 30%, 25V, Cer. Disc
C200	EP18X213	1500pf, 10%, 50V, Cer. Disc
C202	EP31X149	10uf, 10%, 35V, Elect.
C204	EP18X169	.01uf, 30%, 25V, Cer. Disc.
C206	EP31X44	22uf, 20%, 25V, Elect.
C208	EP18X167	.047uf, 20%, 50V, HiK, Cer. Disc
C210	EP18X159	120pf, 5%, NPO, Cer. Disc
C212	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	10uf, 10%, 35V, Elect.
C218	EP31X78	1uf, 20%, 50V, Elect.
C234	EP31X59	470uf, 10%, 25V, Elect.
C236	EP18X169	.01uf, 30%, 25V, Elect.
C250	EP25X77	.1uf, 20%, 50V, Polyester
C256	EP31X44	22uf, 20%, 25V, Elect.
C300	EW31X116	33uf, +50-20%, 10%, Elect.
C302	EP31X49	1uf, 10%, 16V, Elect.
C306	EP18X122	82pf, 5%, 50V, Cer. Disc
C308	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C312	EP18X198	2200pf, 30%, 25V, NPO, Cer. Disc
C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	30pf, 5%, 50V, Cer. Disc
C322	EP18X187	27pf, 5%, 50V, Cer. Disc
C326	EP25X124	.033uf, 20%, 50V, Polyester
C328	EP31X149	10uf, 20%, 35V, Elect.
C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	100pf, 5%, 50V, Cer. Disc
C336	EP31X78	1uf, 20%, 50V, Elect.
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C370	EP25X87	.047uf, 20%, 50V, Polyester
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc
C390	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc
C391	EP31X78	1uf, 20%, 50V, Elect.
C392	EP31X149	10uf, 10%, 35V, Elect.
C393	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc
C394	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc
C395	EP31X78	1uf, 20%, 50V, Elect.
C501	EP31X45	47uf, 20%, 25V, Elect.
C503	EP25X149	.0056uf, 5%, 100V, Polyester
C505	EP31X49	1uf, 10%, 16V, Elect.
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047uf, 10%, 50V, Polyester

REF. NO.	PART NO.
C509	EP2
C512	EP2
C513	EP31
C514	EP1
C515	EP2
C517	EP2
C521	EP2
C523	EP2
C601	EP2
C603	EP31
C605	EP1
C607	EP31
C609	EP31
C611	EP25
C613	EP18
C614	EW3
C615	EP31
C617	EU22
C619	EP31
C621	EP31
C623	EP31
C701	EP25
C703	EP18
C705	EP25
C706	EP25
★ C900	EP25
C901	EP18
★ C902	EP31
C903	EP18
★ C904	EP31
C905	EP18
★ C906	EP31
C907	EP18
C921	EU22
C923	ET22
C924	EP18
C925	EP31
C927	ET22
C929	EP18
C931	EP31
C933	EP25
C935	ET22
C937	EP18
C939	EP31
C941	EP18
C943	EP31
C945	EP18
C947	EP18
C953	EP25
C955	EP20
C957	EP18
C959	EP18
C961	EP31
C965	ET22
C967	EP31
C990	ET22
C991	EP31
C993	EP31
R101	EP14
R102	EP14
R103	ES14
R104	ES14

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

AIN CHASSIS PARTS LIST

: PC-A

ARD ASSEMBLIES

DESCRIPTION

Main Circuit Board
RGB Board
Horiz. Heat Sink Board
Color Averaging
VIR Board

SIS

N CIRCUIT BOARD

S

DESCRIPTION

47uf, 10%, 25V, Elect.
.01uf, 20%, 50V, Polyester
10uf, 10%, 35V, Elect.
10uf, 10%, 35V, Elect.
47uf, +50-10%, 180V, Elect.

S

22 ohm, 5%, 1W, Carbon
18 ohm, 5%, 1W, Carbon
0 ohm, 5%, 2W, Metal Oxide
70 ohm, 5%, ¼W, Carbon
00K ohm, 5%, ¼W, Carbon
.6K ohm, 5%, 3W, Flame Proof
K ohm, 5%, 2W, Metal Oxide

TER

oriz. Centering

IS

PN, Silicon
PN, Silicon

ner
ctifier, Silicon
ctifier, Silicon

ORMERS

IL - Degaussing
IL - Width
NVERGENCE ASM.
KE
ANSFORMER - H.V.
IL - Pincushion Asm.
P - Chassis Mounting
P - CRT Ground Terminal

MISCELLANEOUS

	EP90X40	75/300 ohm Adapter (Antenna)
	EP2X544	BRACKET - Ckt. Bd. Support, Plastic
	EP2X543	BRACKET - H.V.T. Brace, Plastic
	EP2X542	BRACKET - Color & VIR Board Support, Plastic
	EP8X97	CABLE - Coaxial, VHF to UHF
	EP8X103	CABLE - ET91 to VHF & KMP to VHF
	EP8X124	CABLE - ET91 to UHF & KMP to UHF
	EP3X4	CLIP - Upper CRT Bkt—Tuner
	EP2X548	CLIP - Anode Retainer
RL1	EP8X93	CONNECTOR - 5 Pos.
RL3	EP8X71	CONNECTOR - 6 Pos.
RL6	EP8X66	CONNECTOR - 7 Pos.
RL7	EP8X68	CONNECTOR - 2 Pos.
RL9	EP8X90	CONNECTOR - 3 Pos.
RL10	EP8X90	CONNECTOR - 3 Pos. (ET91/KMP91)
RL10	EP8X94	CONNECTOR - 3 Pos. (Direct/LMP91)
PG12	EP8X30	CONNECTOR - 1 Pin
RL16A	EP8X66	CONNECTOR - 7 Pos.
RL17	EP8X90	CONNECTOR - 5 Pos.
RL28	EP8X42	CONNECTOR - 4 Pins
RL60	EP8X43	CONNECTOR - 2 Pins
	★ EP66X19	CORD - AC Power, Polarized, Wired -In-Type
	EP3X41	CUSHION - Yoke Wedge
	EP92X101	FRAME - Front & Sides, For Main Board, Plastic
	EP92X102	FRAME - Rear Support, For Main Board, Plastic
★ F901	EP10X19	FUSE - 4 amp, 250V, Snap-In, Fast Acting
F903	EP10X55	FUSE - 1.25 amp. 250 V, Snap-In, Slow Blow
	EP34X65	SOCKET - CRT
	EP2X534	SPRING - Ground, CRT
	EP2X535	STRAPS - Degaussing Coil Adjust
	EP90X3	WIRE TIE

CH-1-V1

ANTENNA TERMINAL BRACKET

EP37X54

PART NO.	DESCRIPTION
ES3X29	CLIP - Antenna Terminal
EP2X540	CLIP - Power Cord Retainer
EP50X6	ISOLATION - Transformer, Coaxal Cable

ANTENNA TERMINAL BOARD ASM.

EP37X53

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
★ C20	EP18X127	470pf, 20%, 125V, Cer. Disc.
★ C21	EP18X127	470pf, 20%, 125V, Cer. Disc.
★ C22	EP18X127	470pf, 20%, 125V, Cer. Disc.
★ C23	EP18X127	470pf, 20%, 125V, Cer. Disc.

RESISTORS

★ R20	EP14X241	1.8 meg ohm, 40%, ½W, Carbon
★ R21	EP14X241	1.8 meg ohm, 40%, ½W, Carbon
★ R22	EP14X241	1.8 meg ohm, 40%, ½W, Carbon
★ R23	EP14X241	1.8 meg ohm, 40%, ½W, Carbon

MISCELLANEOUS

EP51X5	BALUN - 73 to 300 ohms
EP8X98	CABLE - Coaxial, From Antenna to IF
ES3X29	CLIP - Antenna Terminal
EP2X540	CLIP - Power Cord Holder, Plastic

MAIN CIRCUIT BOARD (PC)

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	EP31X138	.47uf, 20%, 50V, Elect.
C106	EP31X159	470uf, +50-10%, 16V, Elect.
C107	EP18X187	27pf, 5%, 50V, Cer. Disc
C108	EP18X191	68pf, 5%, 50V, Cer. Disc
C109	EP18X159	120pf, 5%, NPO, Cer. Disc
C110	EP18X220	1000pf, 10%, 500V SHiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C112	EP18X180	820pf, 10%, 50V, SHiK, Cer. Disc
C113	EP22X32	.01uf, 10%, 50V, HiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C116	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C117	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C118	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C119	EP31X11	4.7uf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C124	EP18X186	22pf, 10%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Elect.
C126	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C127	EP22X32	.01uf, 20%, 50V, Cer. Disc
C135	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X81	1000pf, 10%, 500V, Cer. Disc
C137	EP18X81	1000pf, 10%, 500V, Cer. Disc
C139	EP18X220	1000pf, 10%, 500V, Cer. Disc
C142	EP18X259	1000pf, 20%, 500V, Cer. Disc
C180	EP18X185	47pf, 5%, 50V, Cer. Disc
C182	ES18X82	47pf, 5%, 50V, Cer. Disc
C183	EP25X87	.047uf, 10%, 50V, Polyester
C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C185	EP31X149	10uf, 20%, 35V, Elect.
C186	EP25X130	.022uf, 10%, 50V, Polyester
C187	EP18X168	1000pf, 10%, 50V, SHiK, Cer. Disc
C188	EP25X146	.033uf, 10%, 200V, Mylar
C189	EP31X149	10uf, 20%, 35V, Elect.
C190	EP31X149	10uf, 20%, 35V, Elect.
C191	EP18X170	.015uf, 10%, 25V, Cer. Disc
C192	EP18X168	1000pf, 10%, 500V SHiK, Cer. Disc
C193	EP18X192	150pf, 5%, 50V, NPO, Cer. Disc
C194	EP31X152	2.2uf, +50-20%, 250V, Elect.
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
C196	EP31X153	22uf, +50-20%, 160V, Elect.
C197	EP31X11	4.7uf, 20%, 35V, Elect.
C198	EP31X149	10uf, 20%, 35V, Elect.
C199	EP18X169	.01uf, 30%, 25V, Cer. Disc
C200	EP18X213	1500pf, 10%, 50V, Cer. Disc
C202	EP31X149	10uf, 10%, 35V, Elect.
C204	EP18X169	.01uf, 30%, 25V, Cer. Disc.
C206	EP31X44	22uf, 20%, 25V, Elect.
C208	EP18X167	.047uf, 20%, 50V, HiK, Cer. Disc
C210	EP18X159	120pf, 5%, NPO, Cer. Disc
C212	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	10uf, 10%, 35V, Elect.
C218	EP31X78	1uf, 20%, 50V, Elect.
C234	EP31X59	470uf, 10%, 25V, Elect.
C236	EP18X169	.01uf, 30%, 25V, Elect.
C250	EP25X77	.1uf, 20%, 50V, Polyester
C256	EP31X44	22uf, 20%, 25V, Elect.
C300	EW31X116	33uf, +50-20%, 10%, Elect.
C302	EP31X49	1uf, 10%, 16V, Elect.
C306	EP18X122	82pf, 5%, 50V, Cer. Disc
C308	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C312	EP18X198	2200pf, 30%, 25V, NPO, Cer. Disc
C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	30pf, 5%, 50V, Cer. Disc
C322	EP18X187	27pf, 5%, 50V, Cer. Disc
C326	EP25X124	.033uf, 20%, 50V, Polyester
C328	EP31X149	10uf, 20%, 35V, Elect.
C330	EP18X32	30pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	100pf, 5%, 50V, Cer. Disc
C336	EP31X78	1uf, 20%, 50V, Elect.
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C370	EP25X87	.047uf, 20%, 50V, Polyester
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc
C390	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc
C391	EP31X78	1uf, 20%, 50V, Elect.
C392	EP31X149	10uf, 10%, 35V, Elect.
C393	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc
C394	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc
C395	EP31X78	1uf, 20%, 50V, Elect.
C501	EP31X45	47uf, 20%, 25V, Elect.
C503	EP25X149	.0056uf, 5%, 100V, Polyester
C505	EP31X49	1uf, 10%, 16V, Elect.
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047uf, 10%, 50V, Polyester
C509	EP25X127	.015uf, 10%, 50V, Polyester
C512	EP25X95	.22uf, 10%, 50V, Polyester
C513	EP31X149	10uf, 20%, 35V, Elect.
C514	EP18X217	330pf, 10%, 50V, SHiK, Cer. Disc
C515	EP25X94	5600pf, 10%, 50V, Polyester
C517	EP25X87	.047uf, 10%, 50V, Polyester
C521	EP25X87	.047uf, 10%, 50V, Polyester
C523	EP25X77	.1uf, 20%, 50V, Polyester
C601	EP25X124	.033uf, 10%, 50V, Polyester
C603	EP31X149	10uf, 20%, 35V, Elect.
C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Disc
C607	EP31X141	220uf, 20%, 25V, Elect.
C609	EP31X78	1uf, 20%, 50V, Elect.
C611	EP25X130	.022uf, 10%, 50V, Polyester
C613	EP18X223	180pf, 5%, 50V, NPO, Cer. Disc
C614	EW31X144	4.7uf, 20%, 50V, Elect.
C615	EP31X151	2.7uf, 20%, 160V, Elect.
C617	EU22X139	4700pf, 20%, 500V, HiK, Cer. Disc
C619	EP31X154	470uf, 20%, 16V, Elect.
C621	EP31X140	100uf, +50-10%, 100V, Elect.
C623	EP31X49	1uf, 10%, 16V, Elect.
C701	EP25X110	3300pf, 10%, 200V, Mylar
C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
C705	EP25X148	.027uf, 10%, 100V, Mylar
C706	EP25X146	.033uf, 20%, 200V, Mylar
★ C900	EP25X147	.1uf, 10%, 125V, Polyester
C901	EP18X220	1000pf, 20%, 1KV, Cer. Disc
★ C902	EP31X158	330uf, +50-20%, Elect.
C903	EP18X220	1000pf, 20%, 1KV, Cer. Disc
★ C904	EP31X109	100uf, 10%, 160V, Elect.
C905	EP18X220	1000pf, 20%, 1KV, Cer. Disc
★ C906	EP31X156	10uf, +50-20%, 180V, Elect.
C907	EP18X220	1000pf, 20%, 1KV, Cer. Disc
C921	EU22X76	1000pf, 20%, 500V, Cer. Disc
C923	ET22X151	470pf, 20%, 1KV, Cer. Disc
C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C926	EP31X159	470uf, +50-20%, 25V, Elect.
C927	ET22X151	470pf, 20%, 1KV, Cer. Disc
C929	EP18X81	1000pf, 20%, 500V, Cer. Disc
C931	EP31X157	220uf, +50-%, 100V, Elect.
C933	EP25X89	.047uf, 20%, 300V, Mylar
C935	ET22X151	470pf, 20%, 1KV, Cer. Disc
C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
C939	EP31X155	4.7uf, +50-20%, 160V, Elect.
C941	EP18X132	8200pf, 10%, 500V, Cer. Disc
C943	EP31X45	47uf, 20%, 16V, Elect.
C945	EP18X265	.015uf, 20%, 500V, HiK, Cer. Disc
C947	EP18X118	.1uf, 10%, 25V, Cer. Disc
C953	EP25X153	2250pf, 5%, 200V, Polypropylene
C955	EP20X20	.047uf, 10%, 200V, Mylar
C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
C959	EP18X266	270pf, 20%, 1KV, Cer. Disc
C961	EP31X141	220uf, +50-10%, 10V, Elect.
C966	ET22X151	470pf, 20%, 1KV, Cer. Disc
C967	EP31X78	1uf, 20%, 50V, Elect.
C990	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C991	EP31X160	3.3uf, +50-20%, 160V, Elect.
C993	EP31X55	100uf, 20%, 10V, Elect.

RESISTORS

R101	EP14X187	100 ohm, 5%, ¼W, Carbon
R102	EP14X180	5.6K ohm, 5%, ¼W, Carbon
R103	ES14X62	1.5K ohm, 5%, ¼W, Carbon
R104	ES14X67	390 ohm, 5%, ¼W, Carbon

R105	ES14X56	33 ohm, 5%, ¼W, Carbon
R107	ES14X59	560 ohm, 5%, ¼W, Carbon
R108	EP14X133	470K ohm, 5%, ¼W, Carbon
R109	ES14X58	470 ohm, 5%, ¼W, Carbon
R111	EP14X252	3.9K ohm, 5%, ¼W, Carbon
R112	EP14X303	470 ohm, 5%, ¼W, Carbon
R113	EP14X284	1K ohm, 5%, ¼W, Carbon
R114	EP14X303	470 ohm, 5%, ¼W, Carbon
R115	EP14X252	3.9K ohm, 5%, ¼W, Carbon
R117	Common	220 ohm, 5%, ¼W, Carbon
R118	Common	9.1K ohm, 5%, ¼W, Carbon
R119	EP14X119	68K ohm, 5%, ¼W, Carbon
R121	EP14X125	47K ohm, 5%, ¼W, Carbon
R122	ES14X51	47 ohm, 5%, ¼W, Carbon
R123	EP14X304	2.7K ohm, 5%, ¼W, Carbon
R125	EP14X243	2.2K ohm, 5%, ¼W, Carbon
R126	EP14X184	2.4K ohm, 5%, ¼W, Carbon
R128	EP14X185	120K ohm, 5%, ¼W, Carbon
R129	ES14X59	560 ohm, 5%, ¼W, Carbon
R130	EP14X304	2.7K ohm, 5%, ¼W, Carbon
R131	Common	5.1K ohm, 5%, ¼W, Carbon
R133	ES14X71	1K ohm, 5%, ¼W, Carbon
R134	Common	120 ohm, 5%, ¼W, Carbon
R135	Common	220 ohm, 5%, ¼W, Carbon
R136	ES14X70	100 ohm, 5%, ¼W, Carbon
R180	ES14X71	1K ohm, 5%, ¼W, Carbon
R181	EP14X243	2.2K ohm, 5%, ¼W, Carbon
R182	EP14X284	1K ohm, 5%, ¼W, Carbon
R183	EP14X284	1K ohm, 5%, ¼W, Carbon
R186	Common	300 ohm, 5%, ¼W, Carbon
R188	EP14X105	100K ohm, 5%, ¼W, Carbon
R190	Common	62K ohm, 5%, ¼W, Carbon
R191	Common	1.6K ohm, 5%, ¼W, Carbon
R192	Common	200 ohm, 5%, ½W, Carbon
R193	Common	36K ohm, 5%, ¼W, Carbon
R194	EP14X103	10K ohm, 5%, ¼W, Carbon
R195	EP14X180	5.6K ohm, 5%, ¼W, Carbon
R198	ES14X271	8.2K ohm, 5%, ¼W, Carbon
R200	ES14X69	56 ohm, 5%, ¼W, Carbon
R202	EP14X285	20K ohm, 5%, ¼W, Carbon
R204	Common	1.2K ohm, 5%, ¼W, Carbon
R205	ES14X71	1K ohm, 5%, ¼W, Carbon
R206	EP14X190	1.8K ohm, 5%, ¼W, Carbon
R208	EP14X303	22K ohm, 5%, ¼W, Carbon
R209	EP14X182	68 ohm, 5%, ¼W, Carbon
R210	Common	200 ohm, 5%, ¼W, Carbon
R211	EP14X249	4.7K ohm, 5%, ¼W, Carbon
R212	EP14X284	12K ohm, 5%, ¼W, Carbon
R213	EP14X271	82K ohm, 5%, ¼W, Carbon
R216	Common	330 ohm, 5%, ¼W, Carbon
R218	EP14X283	680 ohm, 5%, ¼W, Carbon
R220	EP14X189	1.1K ohm, 5%, ¼W, Carbon
R221	EP14X293	680K ohm, 5%, ¼W, Carbon
R222	EP14X271	82K ohm, 5%, ¼W, Carbon
R224	EP14X309	6.8K ohm, 5%, ¼W, Carbon
R226	ES14X59	560 ohm, 5%, ¼W, Carbon
R228	ES14X65	4.7K ohm, 5%, ¼W, Carbon
R230	ES14X71	1K ohm, 5%, ¼W, Carbon
R234	EP14X288	18K ohm, 5%, ¼W, Carbon
R240	ES14X71	1K ohm, 5%, ¼W, Carbon
R250	ES14X62	1.5K ohm, 5%, ¼W, Carbon
R252	EP14X104	22K ohm, 5%, ¼W, Carbon
R254	EP14X105	100K ohm, 5%, ¼W, Carbon
R256	EP14X184	2.4K ohm, 5%, ¼W, Carbon
R258	EP14X285	15K ohm, 5%, ¼W, Carbon
R270	Common	10 ohm, 5%, ¼W, Carbon
R300	Common	36K ohm, 5%, ¼W, Carbon
R302	EP14X285	15K ohm, 5%, ¼W, Carbon
R310	EP14X133	470K ohm, 5%, ¼W, Carbon
R312	EP14X304	2.7K ohm, 5%, ¼W, Carbon
R316	EP14X128	330 ohm, 5%, ¼W, Carbon
R318	Common	43K ohm, 5%, ¼W, Carbon
R320	Common	1.2K ohm, 5%, ¼W, Carbon
R322	ES14X58	470 ohm, 5%, ¼W, Carbon
R326	ES14X71	1K ohm, 5%, ¼W, Carbon
R328	ES14X71	1K ohm, 5%, ¼W, Carbon
R336	Common	5.1K ohm, 5%, ¼W, Carbon
R338	EP14X105	100K ohm, 5%, ¼W, Carbon
R350	Common	3.6K ohm, 5%, ¼W, Carbon
R352	Common	3.6K ohm, 5%, ¼W, Carbon
R354	EP14X128	330 ohm, 5%, ¼W, Carbon
R355	EP14X128	330 ohm, 5%, ¼W, Carbon
R356	Common	3.6K ohm, 5%, ¼W, Carbon
R358	EP14X128	330 ohm, 5%, ¼W, Carbon
R370	ES14X71	1K ohm, 5%, ½W, Carbon
R371	EP14X304	2.7K ohm, 5%, ¼W, Carbon
R372	EP14X187	100 ohm, 5%, ¼W, Carbon
R380	ES14X65	4.7K ohm, 5%, ¼W, Carbon
R381	EP14X180	5.6K ohm, 5%, ¼W, Carbon
R389	Common	820K ohm, 10%, ¼W, Carbon
R390	Common	200 ohm, 5%, ¼W, Carbon
R391	Common	5.1K ohm, 5%, ¼W, Carbon
* R503	EP14X323	6.8K ohm, 5%, 3W, Metal Oxide
R506	Common	5.1K ohm, 5%, ¼W, Carbon
R507	Common	11K ohm, 5%, ¼W, Carbon
R508	EP14X188	15 ohm, 5%, ¼W, Carbon
R509	EP14X119	68K ohm, 5%, ¼W, Carbon
R511	Common	6.2K ohm, 5%, ¼W, Carbon
R513	EP14X103	10K ohm, 5%, ¼W, Carbon
R515	EP14X12	1 meg ohm, 5%, ¼W, Carbon
R516	Common	270K ohm, 5%, ¼W, Carbon
R517	Common	110K ohm, 5%, ¼W, Carbon
R518	Common	240K ohm, 5%, ¼W, Carbon
R519	Common	62K ohm, 5%, ¼w, Carbon
R521	EP14X187	100 ohm, 5%, ¼W, Carbon
R523	ES14X57	390 ohm, 5%, ¼W, Carbon
R525	EP14X304	2.7K ohm, 5%, ¼W, Carbon
R527	EP14X180	5.6K ohm, 5%, ¼W, Carbon
R529	Common	270 ohm, 5%, ¼W, Carbon
R531	ES14X56	33 ohm, 5%, ¼W, Carbon
R533	EP14X106	1 meg ohm, 10%, ¼W, Carbon
R535	EP14X180	5.6K ohm, 5%, ¼W, Carbon
R537	Common	51K ohm, 5%, ¼W, Carbon
R601	EP14X285	15K ohm, 5%, ¼W, Carbon
R603	ES14X51	47 ohm, 5%, ¼W, Carbon
R605	EP14X103	10K ohm, 5%, ¼W, Carbon
R609	EP14X122	7.5K ohm, 5%, ¼W, Carbon
R611	Common	330 ohm, 5%, ¼W, Carbon
R613	EP14X243	2.2K ohm, 5%, ¼W, Carbon
R615	EP14X285	20K ohm, 5%, ¼W, Carbon
R617	Common	220 ohm, 5%, ¼W, Carbon
R621	EP14X272	6.8 ohm, 5%, 1W, Metal Oxide
R623	Common	8.2K ohm, 5%, ¼W, Carbon
R625	Common	220 ohm, 5%, ¼W, Carbon
R627	EP14X243	2.2K ohm, 5%, ¼W, Carbon
R631	EP14X309	6.8K ohm, 5%, ¼W, Carbon
R633	Common	8.2K ohm, 5%, ¼W, Carbon
R635	Common	180 ohm, 5%, ¼W, Carbon
R637	EP14X187	100 ohm, 5%, ¼W, Carbon
R639	ES14X71	1K ohm, 5%, ¼W, Carbon
R641	EP14X188	15 ohm, 5%, ½W, Carbon
R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
★ R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R649	EP14X183	3.3K ohm, 5%, ¼W, Carbon
R651	Common	10 ohm, 5%, ½W, Carbon
R653	EP14X220	180 ohm, 5%, 2W, Metal Oxide
R655	Common	2.7K ohm, 5%, ½W, Carbon
★ R702	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R703	EP14X262	.47 ohm, 5%, 2W, Metal Oxide
R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
★ R900	EP14X106	1 meg ohm, 5%, ½W, Carbon
★ R902	EP14X113	Degaussing
R903	EP14X105	100K ohm, 5%, ¼W, Carbon
★ R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
★ R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
★ R921	ES14X80	2.2 ohm, 5%, ½W, Flame Proof
R923	ES14X79	1 ohm, 5%, ½W, Flame Proof
★ R925	ES14X80	2.2 ohm, 5%, ½W, Flame Proof
★ R927	ES14X80	2.2 ohm, 5%, ½W, Flame Proof
R929	EP14X210	.82 ohm, 5%, 1W, Metal Oxide
R932	Common	120 ohm, 5%, ¼W, Carbon
R932A	Common	120 ohm, 5%, ¼W, Carbon
R933	Common	220K ohm, 5%, ½W, Carbon
★ R935	EP14X190	1.8K ohm, 5%, ½W, Carbon
★ R936	EU13X4	1K ohm, 5%, ½W, Carbon
★ R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R939	EP14X187	100 ohm, 5%, ½W, Carbon
★ R941	EP14X154	22 ohm, 5%, 2W, Metal Oxide
R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
R952	Common	1.8 meg ohm, 5%, ¼W, Carbon
R955	EP14X252	3.9K ohm, 2%, ¼W, Carbon
R957	EP14X284	1K ohm, 5%, ¼W, Carbon
R959	EP14X284	1K ohm, 5%, ¼W, Carbon
R961	ES14X71	1K ohm, 5%, ¼W, Carbon
R963	Common	220 ohm, 5%, ¼W, Carbon
R965	Common	6.2K ohm, 5%, ¼W, Carbon
R969	ES14X56	33 ohm, 5%, ½W, Carbon
R971	EP14X128	330 ohm, 5%, ½W, Carbon
★ R973	ES14X58	470 ohm, 5%, ½W, Carbon
R975	EP14X275	1K ohm, 10%, 3W, Wirewound
R981	EP14X318	3 ohm, 10%, 5W, Wirewound
★ R983	EP14X321	470 ohm, 5%, 2W, Metal Oxide
R985	Common	240 ohm, 5%, ¼W, Carbon
R990	EP14X269	20 ohm, 5%, ½W, Flame Proof
R996	EP14X250	2.2K ohm, 5%, ¼W, Carbon
R998	Common	27K ohm, 5%, ¼W, Carbon

POTENTIOMETERS

R116	EP49X463	RF/AFC, 5K 20%
R124	EP49X463	IF/AGC, 5K, 20%
R214	EP49X464	Sharpness, 1K, 20%
R262	EP49X463	Brightness, 5K, 20%
R330	EP49X465	APC, 50K, 20%
R505	EP49X463	Horiz. Hold, 5K, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K, 20%
R657	EP49X465	Vert. Centering, 50K, 20%
R953	EP49X468	Reg., 1K, 20%

INTERGRATED CIRCUITS

	EP62X154	HVSD - Thick Film
IC101	EP84X213	VIF/Det/AFC
IC190	EP84X216	IF/Sound
IC300	EP84X214	Chroma/Video
IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V. 3 Ter. Regulator
SF100	EP41X126	Ceramic Filter, 4-5mhz, Audio
SF101	EP41X123	Wave Filter
X300	EP41X10	Crystal-Quartz

TRANSISTORS

SCR903	EP15X217	SCR Regular, PNP
Q105	EP15X104	IF, Preamplifier HF, BiPolar
Q110	EP15X87	Video Emitter Follower, NPN
Q190	EP15X19	Audio Output, NPN
Q192	EP15X19	Audio Output, NPN
Q200	EP15X88	Beam Current Limiter, NPN
Q202	EP15X48	Beam Current Limiter, PNP
Q204	EP15X88	Video Peaking, NPN
Q206	EP15X83	Video Peaking, NPN
Q207	EP15X57	Video Driver, PNP
Q300	EP15X88	Burst Gate, NPN
Q501	EP15X48	Noise Canceller, PNP
Q601	EP15X105	Vertical Output, NPN
Q603	EP15X105	Vertical Output, NPN
Q701	EP15X19	Horizontal Driver, NPN
Q901	EP15X88	116 Volt Regulator, NPN
Q903	EP15X91	Regulator Discharge, NPN
Q905	EP15X57	Regulator Trigger, PNP

DIODES

Y190	EP57X4	Rectifier, Silicon
Y192	EP57X4	Rectifier, Silicon
Y194	EP16X58	Zener
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X147	Schockley
Y350	EP16X58	Zener
Y352	EP16X58	Zener
Y354	EP16X58	Zener
Y370	ES16X27	Silicon
Y382	ES16X27	Silicon
Y501	ES16X27	Silicon
Y503	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP57X5	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y951	EP16X19	Zener
Y955	EP57X5	Rectifier, Silicon
★ Y957	EP16X148	Zener
★ Y958	EP16X148	Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963	EP16X154	Rectifier, Silicon
Y963A	EP16X154	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Silicon
Y992	EP57X5	Rectifier, Silicon

COILS & TRANSFORMERS

L101	EP36X442	CHOKE - .82uh, 10%
L102	EP36X442	CHOKE - .82uh, 10%
L103	EP36X442	CHOKE - .82uh, 10%
L104	EP36X4	CHOKE - 9.2uh
L105	EP36X312	COIL - 4.5mc, Trap
L106	EP36X433	COIL - 45.75 mhz, Molded
L107	EP36X433	COIL - 45.75 mhz, Molded
L108	EP36X434	COIL - IF & 41.25 mhz, Trap
L180	EP36X144	CHOKE - 27uh, 5%
L190	EP36X435	COIL - Quad.
L196	ES36X82	CHOKE - 220uh
L200	EP36X314	CHOKE - 30uh, 10%
L204	EP36X17	CHOKE - 150uh, 10%

CONTINUED

PC CHASSIS

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIR OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

19" PC-B CHASSIS

CIRCUIT BOARD ASSEMBLIES

PART NO.	DESCRIPTION
	Main Circuit Board
EP93X377	RGB Circuit Board
EP93X453	Horiz. Heat Sink Circuit Board
EP93X381	VIR Circuit Board

CHASSIS

PARTS NOT ON CIRCUIT BOARDS

CAPACITORS

REF NO.	PART NO.	DESCRIPTION
C30	EP31X45	47uf, 10%, 25V, Elect.
C60	ES25X22	.01uf, 20%, 50V, Polyester
C90	EP31X149	10uf, 20%, 35V, Elect.
C232	EP31X147	47uf, +100-10%, 250V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R234	EP14X296	100 ohm, 5%, 1/2W, Metal Oxide
R235	EP14X326	VARSISTOR-"MOV", Metal Oxide

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz. Centering

TRANSISTOR

REF. NO	PART NO	DESCRIPTION
Q1901	EP15X218	NPN, Silicon

DIODE

REF. NO	PART NO	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COILS & TRANSFORMER

REF. NO	PART NO	DESCRIPTION
	EP36X445	COIL-Degaussing
	EP42X8	CONVERGENCE ASM.
	EP76X30	YOKE
L50	ES36X82	CHOKE-220uh, 10%
L1901	EP36X443	COIL-Width
* T701	EP77X56	TRANSFORMER-H V
* T1901	EP36X444	COIL-Pincushion Asm

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-75 to 300 ohm (Antenna)
	EP8X36	ANODE-CRT Connector
	EP2X544	BRACKET-Ckt. Bd. Support, Plastic
	EP2X546	BRACKET-CRT Ground Terminal
	EP2X543	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H.V.T Support, Plastic
	EP2X271	BRACKET-Rib Boss For Cabinet Front
	EP2X548	BRACKET-Anode Lead Dress
	EP8X97	CABLE-Coaxial, VHF to UHF
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-ET91 to UHF & KMP To UHF
	EP2X90	CLAMP-Yoke & Covn. Retainer
	EP3X4	CLIP-Upper CRT Bkt - Tuner
	EP2X545	CLIP-Chassis Mounting (Uses 2)
	EP2X548	CLIP-Anode Retainer

MISCELLANEOUS

REF. NO.	PART NO	DESCRIPTION
RL1	EP8X93	CONNECTOR-5 Pos
RL3	EP8X71	CONNECTOR-6 Pos
RL6	EP8X66	CONNECTOR-7 Pos
RL7	EP8X68	CONNECTOR-2 Pos
RL9	EP8X90	CONNECTOR-3 Pos
RL10	EP8X94	CONNECTOR-3 Pos. (KMP112/LMP112)
PG/RL12	EP8X30	CONNECTOR-1 Pin
RL16A	EP8X66	CONNECTOR-7 Pos
RL17	EP8X90	CONNECTOR-5 Pos
RL28	EP8X42	CONNECTOR-4 Pins
RL59	EP8X43	CONNECTOR-2 Pins
RL60	EP8X43	CONNECTOR-2 Pins
RL232	EP8X90	CONNECTOR-5 Pos
PG230	EP8X43	CONNECTOR-2 Pins
	EP66X19	CORD-AC Power, Polarized, Wired In-Type
	EP3X41	CUSHION-Yoke Wedge
	EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
	EP92X102	FRAME-Rear Support, For Main Board, Plastic
* F901	EP10X19	FUSE-4 amp, 250V, Snap-In, Fast Acting
* F903	EP10X55	FUSE-1.25 amp, 250V, Snap-In, Slow Acting
	EP34X65	SOCKET-CRT
	EP2X534	SPRING-Ground, CRT (Uses 2)
	EP2X535	STRAPS-Degaussing Coil Adjust
	EP90X3	Wire Tie

MAIN CIRCUIT BOARD

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	EP31X138	.47uf, 20%, 50V, Elect.
C106	EP31X159	470uf, +50-10%, 16V, Elect.
C107	EP18X187	27pf, 5%, 50V, Cer. Disc
C108	EP18X191	68pf, 5%, 50V, Cer. Disc
C109	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C110	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C112	EP18X180	820pf, 10%, 50V, SHiK, Cer. Disc
C113	EP22X32	.01uf, 10%, 50V, SHiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C116	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C117	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C118	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C119	EP31X170	4.7uf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C124	EP18X186	22pf, 10%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Elect.
C126	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C127	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C135	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X220	1000pf, 10%, 500V, Cer. Disc
C137	EP18X220	1000pf, 10%, 500V, Cer. Disc
C139	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C142	EP18X259	1000pf, 20%, 500V, Cer. Disc
C180	EP18X189	47pf, 5%, 50V, Cer. Disc
C182	EP18X189	47pf, 5%, 50V, Cer. Disc
C183	EP25X87	.047uf, 10%, 50V, Polyester
C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C185	EP31X149	10uf, 20%, 35V, Elect.
C186	EP25X130	.022uf, 10%, 50V, Polyester
C187	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C188	EP25X146	.033uf, 10%, 200V, Mylar
C189	EP31X149	10uf, 20%, 35V, Elect.
C190	EP31X149	10uf, 20%, 35V, Elect.
C191	EP18X170	.015uf, 10%, 25V, Cer. Disc
C192	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C193	EP18X192	150pf, 5%, 50V, NPO, Cer. Disc

CAPACITORS

REF NO	PART NO	DESCRIPTION
C194	EP31X152	2.2uf, +50-20%, 250V, Elect.
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
C196	EP31X153	22uf, +50-10%, 160V, Elect.
C197	EP31X170	4.7uf, 20%, 35V, Elect.
C198	EP31X149	10uf, 20%, 35V, Elect.
C199	EP18X169	.01uf, 30%, 25V, Cer. Disc
C200	EP18X213	1500pf, 10%, 50V, Cer. Disc
C202	EP31X149	10uf, 10%, 35V, Elect.
C204	EP18X169	.01uf, 30%, 25V, Cer. Disc
C205	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C206	EP31X172	22uf, 20%, 25V, Elect.
C208	EP18X167	.047uf, 20%, 50V, HiK, Cer. Disc
C210	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	10uf, 10%, 35V, Elect.
C218	EP31X78	1uf, 20%, 50V, Elect.
C234	EP31X88	47uf, 10%, 16V, Elect.
C236	EP18X169	.01uf, 30%, 25V, Elect.
C240	ES18X56	18pf, 10%, 500V, Cer. Disc
C250	EP25X77	.1uf, 20%, 50V, Polyester
C256	EP31X172	22uf, 20%, 25V, Elect.
C300	EW31X175	33uf, +50-20%, 10V, Elect.
C302	EP31X49	1uf, 10%, 16V, Elect.
C306	EP18X122	82pf, 5%, 50V, Cer. Disc
C308	EU22X216	.01uf, 20%, 50V, HiK, Cer, Disc
C312	EP18X198	2200pf, 30%, 25V, NPO, Cer, Disc
C314	EP18X202	220pf, 10%, 50V, NPO, Cer, Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer, Disc
C320	EP18X219	30pf, 5%, 50V, Cer. Disc
C322	EP18X187	27pf, 5%, 50V, Cer. Disc
C326	EP25X124	.033uf, 20%, 50V, Polyester
C328	EP31X149	10uf, 20%, 35V, Elect.
C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	100pf, 5%, 50V, Cer. Disc
C336	EP31X78	1uf, 20%, 50V, Elect.
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C370	EP25X87	.047uf, 20%, 50V, Polyester
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc
C390	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
C391	EP31X78	1uf, 20%, 50V, Elect.
C392	EP31X149	10uf, 20%, 35V, Elect.
C393	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
C394	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
C395	EP31X78	1uf, 20%, 50V, Elect.
C501	EP31X45	47uf, 20%, 16V, Elect.
C503	EP25X149	5600pf, 5%, 100V, Polypropylene
C505	EP31X49	1uf, 10%, 16V, Elect.
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047uf, 10%, 50V, Polyester
C509	EP25X127	.015uf, 10%, 50V, Polyester
C512	EP25X95	.22uf, 10%, 50V, Polyester
C513	EP31X149	10uf, 20%, 35V, Elect.
C514	EP18X217	330pf, 10%, 50V, SHiK, Cer. Disc
C515	EP25X94	5600pf, 10%, 50V, Polyester
C517	EP25X87	.047uf, 10%, 50V, Polyester
C521	EP25X160	8200pf, 10%, 50V, Polyester
C523	EP25X77	.1uf, 20%, 50V, Polyester
C601	EP25X124	.033uf, 10%, 50V, Polyester
C603	EP31X149	10uf, 20%, 35V, Elect.
C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Disc
C607	EP31X141	220uf, 20%, 16V, Elect.
C609	EP31X78	1uf, 20%, 50V, Elect.
C611	EP25X130	.022uf, 10%, 50V, Polyester
C613	EP18X272	180pf, 5%, 50V, Cer. Disc
C614	EP31X11	4.7uf, 20%, 50V, Elect.
C615	EP31X151	2.7uf, 20%, 160V, Elect.
C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C619	EP31X154	470uf, 20%, 10V, Elect.
C621	EP31X169	100uf, 20%, 50V, Elect.
C623	EP31X49	1uf, 10%, 16V, Elect.
C701	EP25X110	3300pf, 10%, 200V, Mylar
C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
C705	EP25X148	.027uf, 10%, 100V, Polyester
C706	EP25X146	.033uf, 20%, 200V, Mylar
C901	EP18X220	1000pf, 20%, 1KV, Cer. Disc
* C902	EP31X158	330uf, +50-20%, 180V, Elect.
C903	EP18X220	1000pf, 20%, 1KV, Cer. Disc
* C904	EP31X109	100uf, 10%, 160V, Elect.
C905	EP18X220	1000pf, 20%, 1KV, Cer. Disc
* C906	EP31X156	10uf, +50-20%, 180V, Elect.
C907	EP18X220	1000pf, 20%, 1KV, Cer. Disc
C921	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc
C923	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C925	EP31X159	470uf, +50-10%, 25V, Elect.
C927	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C929	EP18X81	1000pf, 20%, 500V, Cer. Disc

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C931	EP31X157	220uf, +50-10%, 100V, Elect.
C933	EP25X89	.047uf, 20%, 300V, Mylar
C935	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
C939	EP31X155	4.7uf, +50-20%, 160V, Elect.
C941	EP18X132	8200pf, 10%, 500V, Cer. Disc
C943	EP31X45	47uf, 20%, 16V, Elect.
C945	EU22X212	6800pf, 20%, 500V, Cer. Disc
C947	EP18X118	.1uf, 10%, 25V, Cer. Disc
C953	EP25X161	1800pf, 10%, 200V, Mylar
C955	EP20X20	.047uf, 10%, 200V, Mylar
C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
C959	EP18X266	270pf, 20%, 1KV, SHiK, Cer. Disc
C961	EP31X35	10uf, 10%, 35V, Elect.
C965	EP18X11	470pf, 10%, 1KV, Cer. Disc
C967	EP31X78	1uf, 20%, 50V, Elect.
C990	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C991	EP31X160	3.3uf, +50-10%, 160V, Elect.
C993	EP31X55	100uf, 20%, 10V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X187	100 ohm, 5%, 1/8W, Carbon
R102	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R103	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R104	ES14X57	390 ohm, 5%, 1/8W, Carbon
R105	ES14X56	33 ohm, 5%, 1/8W, Carbon
R107	ES14X59	560 ohm, 5%, 1/8W, Carbon
R108	EP14X133	470K ohm, 5%, 1/8W, Carbon
R109	ES14X58	470 ohm, 5%, 1/8W, Carbon
R111	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R112	EP14X303	470 ohm, 5%, 1/8W, Carbon
R113	EP14X284	1K ohm, 5%, 1/8W, Carbon
R114	EP14X303	470 ohm, 5%, 1/8W, Carbon
R115	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R117	Common	220 ohm, 5%, 1/8W, Carbon
R118	Common	9.1K ohm, 5%, 1/8W, Carbon
R119	EP14X119	68K ohm, 5%, 1/8W, Carbon
R121	EP14X125	47K ohm, 5%, 1/8W, Carbon
R122	EP14X182	68 ohm, 5%, 1/8W, Carbon
R123	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R125	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R126	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
R128	EP14X185	120K ohm, 5%, 1/8W, Carbon
R129	ES14X59	560 ohm, 5%, 1/8W, Carbon
R130	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R131	EP14X288	18K ohm, 5%, 1/8W, Carbon
R133	ES14X71	1K ohm, 5%, 1/8W, Carbon
R134	Common	120 ohm, 5%, 1/4W, Carbon
R135	Common	220 ohm, 5%, 1/4W, Carbon
R136	EP14X239	750 ohm, 5%, 1/8W, Carbon
R180	ES14X71	1K ohm, 5%, 1/8W, Carbon
R181	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R182	EP14X284	1K ohm, 5%, 1/8W, Carbon
R183	EP14X284	1K ohm, 5%, 1/8W, Carbon
R186	Common	300 ohm, 5%, 1/8W, Carbon
R188	EP14X105	100K ohm, 5%, 1/8W, Carbon
R190	Common	62K ohm, 5%, 1/8W, Carbon
R191	Common	1.6K ohm, 5%, 1/8W, Carbon
* R192	EP14X329	200 ohm, 5%, 1/2W, Carbon Fl. Proof
R193	Common	36K ohm, 5%, 1/4W, Carbon
R194	EP14X103	10K ohm, 5%, 1/8W, Carbon
R195	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R198	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R200	ES14X69	56 ohm, 5%, 1/8W, Carbon
R202	EP14X285	20K ohm, 5%, 1/8W, Carbon
R204	Common	1.2K ohm, 5%, 1/8W, Carbon
R205	ES14X71	1K ohm, 5%, 1/8W, Carbon
R206	EP14X190	1.8K ohm, 5%, 1/8W, Carbon
R208	EP14X303	22K ohm, 5%, 1/8W, Carbon
R209	EP14X182	68 ohm, 5%, 1/8W, Carbon
R210	Common	200 ohm, 5%, 1/8W, Carbon
R211	EP14X249	4.7K ohm, 5%, 1/8W, Carbon
R212	EP14X284	12K ohm, 5%, 1/8W, Carbon
R213	EP14X271	82K ohm, 5%, 1/8W, Carbon
R216	Common	330 ohm, 5%, 1/8W, Carbon
R218	EP14X283	680 ohm, 5%, 1/8W, Carbon
R220	EP14X189	1.1K ohm, 5%, 1/8W, Carbon
R221	EP14X293	680K ohm, 5%, 1/8W, Carbon
R222	EP14X271	82K ohm, 5%, 1/8W, Carbon
R224	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R226	ES14X59	560 ohm, 5%, 1/8W, Carbon
R228	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R230	ES14X71	1K ohm, 5%, 1/8W, Carbon
R234	EP14X288	18K ohm, 5%, 1/8W, Carbon
R240	ES14X71	1K ohm, 5%, 1/8W, Carbon
R250	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R252	EP14X303	22K ohm, 5%, 1/8W, Carbon

REF. NO.	PA
R254	EI
R256	EI
R258	EI
R270	EI
R300	Co
R302	EP
R310	EP
R312	EP
R316	EP
R318	Co
R320	Co
R322	ES
R326	ES
R328	ES
R336	Co
R338	EP
R350	Co
R352	Co
R354	EP
R355	EP
R356	Co
R358	EP
R370	EP
R371	EP
R372	EP
R380	ES
R381	EP
R389	Com
R390	Com
R391	Com
R503	EP1
R506	Com
R507	Com
R508	EP1
R509	EP1
R511	EP1
R513	EP1
R515	EP1
R516	Com
R517	Com
R518	Com
R519	Com
R521	EP1
R523	ES1
R525	EP1
R527	EP1
R529	Com
R531	ES1
R535	EP14
R537	EP14
R601	EP14
R603	ES14
R605	EP14
R609	EP14
R611	EP14
R613	EP14
R615	EP14
R617	Comm
R621	EP14
R623	Comm
R625	Comm
R627	EP14
R631	EP14
R633	Comm
R635	Comm
R637	EP14
R639	ES14
R641	EP14
* R643	EP14
* R645	EP14
* R647	EP14
R649	EP14
R651	Commo
* R653	EP14
R655	Commo
* R702	EP14X
* R703	EP14X
* R707	EP14X
* R900	EP14X
* R901	EP14X
R903	EP14X
* R905	EP14X
* R907	EP14X
* R921	ES14X
R923	ES14X
* R925	ES14X
* R927	ES14X
R929	EP14X
R932	Commo

SIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE
T AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS
CIAL SIGNFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED
T OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE
DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME
OMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIR OR OTHER
ION.

HASSIS

ASSEMBLIES

DESCRIPTION
uit Board
it Board
at Sink Circuit Board
it Board

UIT BOARDS

DESCRIPTION
25V, Elect.
, 50V, Polyester
35V, Elect.
-10%, 250V, Elect.

DESCRIPTION
, 5W, Flame Proof
5%, 3W, Flame Proof
, 1/2W, Metal Oxide
"MOV", Metal Oxide

DESCRIPTION
ering

DESCRIPTION
n

DESCRIPTION
Silicon

R

DESCRIPTION
sing
ASM.

10%

H V.
ion Asm.

DESCRIPTION
o 300 ohm (Antenna)
nnector
Bd. Support, Plastic
Ground Terminal
T. Brace, Plastic
T. Support, Plastic
Boss For Cabinet Front
e Lead Dress
1, VHF to UHF
s Bracket To Tuner
o UHF & KMP To UHF
Covn. Retainer
RT Bkt - Tuner
Mounting (Uses 2)
etainer

MISCELLANEOUS

	REF. NO.	PART NO.	DESCRIPTION
	RL1	EP8X93	CONNECTOR-5 Pos.
	RL3	EP8X71	CONNECTOR-6 Pos.
	RL6	EP8X66	CONNECTOR-7 Pos.
	RL7	EP8X68	CONNECTOR-2 Pos.
	RL9	EP8X90	CONNECTOR-3 Pos.
	RL10	EP8X94	CONNECTOR-3 Pos. (LMP112/LMP112)
	PG/RL12	EP8X30	CONNECTOR-1 Pin
	RL16A	EP8X66	CONNECTOR-7 Pos.
	RL17	EP8X90	CONNECTOR-5 Pos.
	RL28	EP8X42	CONNECTOR-4 Pins
	RL59	EP8X43	CONNECTOR-2 Pins
	RL60	EP8X43	CONNECTOR-2 Pins
	RL232	EP8X90	CONNECTOR-5 Pos.
	PG250	EP8X43	CONNECTOR-2 Pins
		EP66X19	CORD-AC Power, Polarized, Wired In-Type
		EP3X41	CUSHION-Yoke Wedge
		EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
		EP92X102	FRAME-Rear Support, For Main Board, Plastic
*	F901	EP10X19	FUSE-4 amp, 250V, Snap-In, Fast Acting
*	F903	EP10X55	FUSE-1.25 amp, 250V, Snap-In, Slow Acting
		EP34X65	SOCKET-CRT
		EP2X534	SPRING-Ground, CRT (Uses 2)
		EP2X535	STRAPS-Degaussing Coil Adjust
		EP90X3	Wire Tie

MAIN CIRCUIT BOARD

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	EP31X138	.47uf, 20%, 50V, Elect.
C106	EP31X159	470uf, +50-10%, 16V, Elect.
C107	EP18X187	27pf, 5%, 50V, Cer. Disc
C108	EP18X191	68pf, 5%, 50V, Cer. Disc
C109	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C110	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C112	EP18X180	820pf, 10%, 50V, SHiK, Cer. Disc
C113	EP22X32	.01uf, 10%, 50V, SHiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C116	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C117	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C118	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C119	EP31X170	4.7uf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C124	EP18X186	22pf, 10%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Elect.
C126	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C127	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C135	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X220	1000pf, 10%, 500V, Cer. Disc
C137	EP18X220	1000pf, 10%, 500V, Cer. Disc
C139	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C142	EP18X259	1000pf, 20%, 500V, Cer. Disc
C180	EP18X189	47pf, 5%, 50V, Cer. Disc
C182	EP18X189	47pf, 5%, 50V, Cer. Disc
C183	EP25X87	.047uf, 10%, 50V, Polyester
C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C185	EP31X149	10uf, 20%, 35V, Elect.
C186	EP25X130	.022uf, 10%, 50V, Polyester
C187	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C188	EP25X146	.033uf, 10%, 200V, Mylar
C189	EP31X149	10uf, 20%, 35V, Elect.
C190	EP31X149	10uf, 20%, 35V, Elect.
C191	EP18X170	.015uf, 10%, 25V, Cer. Disc
C192	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C193	EP18X192	150pf, 5%, 50V, NPO, Cer. Disc

CAPACITORS

	REF. NO.	PART NO.	DESCRIPTION
	C194	EP31X152	2.2uf, +50-20%, 250V, Elect.
	C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
	C196	EP31X153	22uf, +50-10%, 160V, Elect.
	C197	EP31X170	4.7uf, 20%, 35V, Elect.
	C198	EP31X149	10uf, 20%, 35V, Elect.
	C199	EP18X169	.01uf, 30%, 25V, Cer. Disc
	C200	EP18X213	1500pf, 10%, 50V, Cer. Disc
	C202	EP31X149	10uf, 10%, 35V, Elect.
	C204	EP18X169	.01uf, 30%, 25V, Cer. Disc
	C205	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
	C206	EP31X172	22uf, 20%, 25V, Elect.
	C208	EP18X167	.047uf, 20%, 50V, HiK, Cer. Disc
	C210	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
	C216	EP31X149	10uf, 10%, 35V, Elect.
	C218	EP31X78	1uf, 20%, 50V, Elect.
	C234	EP31X88	47uf, 10%, 16V, Elect.
	C236	EP18X169	.01uf, 30%, 25V, Elect.
	C240	ES18X56	18pf, 10%, 500V, Cer. Disc
	C250	EP25X77	.1uf, 20%, 50V, Polyester
	C256	EP31X172	22uf, 20%, 25V, Elect.
	C300	EW31X175	33uf, +50-20%, 10V, Elect.
	C302	EP31X49	1uf, 10%, 16V, Elect.
	C306	EP18X122	82pf, 5%, 50V, Cer. Disc
	C308	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
	C312	EP18X198	2200pf, 30%, 25V, NPO, Cer. Disc
	C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
	C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
	C320	EP18X219	30pf, 5%, 50V, Cer. Disc
	C322	EP18X187	27pf, 5%, 50V, Cer. Disc
	C326	EP25X124	.033uf, 20%, 50V, Polyester
	C328	EP31X149	10uf, 20%, 35V, Elect.
	C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
	C334	EP18X194	100pf, 5%, 50V, Cer. Disc
	C336	EP31X78	1uf, 20%, 50V, Elect.
	C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
	C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
	C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
	C370	EP25X87	.047uf, 20%, 50V, Polyester
	C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
	C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc
	C390	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
	C391	EP31X78	1uf, 20%, 50V, Elect.
	C392	EP31X149	10uf, 20%, 35V, Elect.
	C393	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
	C394	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
	C395	EP31X78	1uf, 20%, 50V, Elect.
	C501	EP31X45	47uf, 20%, 16V, Elect.
	C503	EP25X149	5600pf, 5%, 100V, Polypropylene
	C505	EP31X49	1uf, 10%, 16V, Elect.
	C506	EP25X150	6800pf, 10%, 50V, Polyester
	C507	EP25X87	.047uf, 10%, 50V, Polyester
	C509	EP25X127	.015uf, 10%, 50V, Polyester
	C512	EP25X95	.22uf, 10%, 50V, Polyester
	C513	EP31X149	10uf, 20%, 35V, Elect.
	C514	EP18X217	330pf, 10%, 50V, SHiK, Cer. Disc
	C515	EP25X94	5600pf, 10%, 50V, Polyester
	C517	EP25X87	.047uf, 10%, 50V, Polyester
	C521	EP25X160	8200pf, 10%, 50V, Polyester
	C523	EP25X77	.1uf, 20%, 50V, Polyester
	C601	EP25X124	.033uf, 10%, 50V, Polyester
	C603	EP31X149	10uf, 20%, 35V, Elect.
	C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Disc
	C607	EP31X141	220uf, 20%, 16V, Elect.
	C609	EP31X78	1uf, 20%, 50V, Elect.
	C611	EP25X130	.022uf, 10%, 50V, Polyester
	C613	EP18X272	180pf, 5%, 50V, Cer. Disc
	C614	EP31X11	4.7uf, 20%, 50V, Elect.
	C615	EP31X151	2.7uf, 20%, 160V, Elect.
	C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
	C619	EP31X154	470uf, 20%, 10V, Elect.
	C621	EP31X169	100uf, 20%, 50V, Elect.
	C623	EP31X49	1uf, 10%, 16V, Elect.
	C701	EP25X110	3300pf, 10%, 200V, Mylar
	C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
	C705	EP25X148	.027uf, 10%, 100V, Polyester
	C706	EP25X146	.033uf, 20%, 200V, Mylar
	C901	EP18X220	1000pf, 20%, 1KV, Cer. Disc
*	C902	EP31X158	330uf, +50-20%, 180V, Elect.
	C903	EP18X220	1000pf, 20%, 1KV, Cer. Disc
*	C904	EP31X109	100uf, 10%, 160V, Elect.
	C905	EP18X220	1000pf, 20%, 1KV, Cer. Disc
*	C906	EP31X156	10uf, +50-20%, 180V, Elect.
	C907	EP18X220	1000pf, 20%, 1KV, Cer. Disc
	C921	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc
	C923	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
	C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
	C925	EP31X159	470uf, +50-10%, 25V, Elect.
	C927	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
	C929	EP18X81	1000pf, 20%, 500V, Cer. Disc

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C931	EP31X157	220uf, +50-10%, 100V, Elect
C933	EP25X89	.047uf, 20%, 300V, Mylar
C935	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
C939	EP31X155	4.7uf, +50-20%, 160V, Elect
C941	EP18X132	8200pf, 10%, 500V, Cer. Disc
C943	EP31X45	47uf, 20%, 16V, Elect.
C945	EU22X212	6800pf, 20%, 500V, Cer. Disc
C947	EP18X118	.1uf, 10%, 25V, Cer. Disc
C953	EP25X161	1800pf, 10%, 200V, Mylar
C955	EP20X20	.047uf, 10%, 200V, Mylar
C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
C959	EP18X266	270pf, 20%, 1KV, SHiK, Cer. Disc
C961	EP31X35	10uf, 10%, 35V, Elect.
C965	EP18X11	470pf, 10%, 1KV, Cer. Disc
C967	EP31X78	1uf, 20%, 50V, Elect.
C990	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C991	EP31X160	3.3uf, +50-10%, 160V, Elect.
C993	EP31X55	100uf, 20%, 10V, Elect.

RESISTORS

	REF NO	PART NO.	DESCRIPTION
	R101	EP14X187	100 ohm, 5%, 1/8W, Carbon
	R102	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
	R103	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
	R104	ES14X57	390 ohm, 5%, 1/8W, Carbon
	R105	ES14X56	33 ohm, 5%, 1/8W, Carbon
	R107	ES14X59	560 ohm, 5%, 1/8W, Carbon
	R108	EP14X133	470K ohm, 5%, 1/8W, Carbon
	R109	ES14X58	470 ohm, 5%, 1/8W, Carbon
	R111	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
	R112	EP14X303	470 ohm, 5%, 1/8W, Carbon
	R113	EP14X284	1K ohm, 5%, 1/8W, Carbon
	R114	EP14X303	470 ohm, 5%, 1/8W, Carbon
	R115	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
	R117	Common	220 ohm, 5%, 1/8W, Carbon
	R118	Common	9.1K ohm, 5%, 1/8W, Carbon
	R119	EP14X119	68K ohm, 5%, 1/8W, Carbon
	R121	EP14X125	47K ohm, 5%, 1/8W, Carbon
	R122	EP14X182	68 ohm, 5%, 1/8W, Carbon
	R123	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
	R125	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
	R126	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
	R128	EP14X185	120K ohm, 5%, 1/8W, Carbon
	R129	ES14X59	560 ohm, 5%, 1/8W, Carbon
	R130	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
	R131	EP14X288	18K ohm, 5%, 1/8W, Carbon
	R133	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R134	Common	120 ohm, 5%, 1/4W, Carbon
	R135	Common	220 ohm, 5%, 1/4W, Carbon
	R136	EP14X239	750 ohm, 5%, 1/8W, Carbon
	R180	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R181	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
	R182	EP14X284	1K ohm, 5%, 1/8W, Carbon
	R183	EP14X284	1K ohm, 5%, 1/8W, Carbon
	R186	Common	300 ohm, 5%, 1/8W, Carbon
	R188	EP14X105	100K ohm, 5%, 1/8W, Carbon
	R190	Common	62K ohm, 5%, 1/8W, Carbon
	R191	Common	1.6K ohm, 5%, 1/8W, Carbon
*	R192	EP14X329	200 ohm, 5%, 1/2W, Carbon Fl. Proof
	R193	Common	36K ohm, 5%, 1/4W, Carbon
	R194	EP14X103	10K ohm, 5%, 1/8W, Carbon
	R195	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
	R198	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
	R200	ES14X69	56 ohm, 5%, 1/8W, Carbon
	R202	EP14X285	20K ohm, 5%, 1/8W, Carbon
	R204	Common	1.2K ohm, 5%, 1/8W, Carbon
	R205	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R206	EP14X190	1.8K ohm, 5%, 1/8W, Carbon
	R208	EP14X303	22K ohm, 5%, 1/8W, Carbon
	R209	EP14X182	68 ohm, 5%, 1/8W, Carbon
	R210	Common	200 ohm, 5%, 1/8W, Carbon
	R211	EP14X249	4.7K ohm, 5%, 1/8W, Carbon
	R212	EP14X284	12K ohm, 5%, 1/8W, Carbon
	R213	EP14X271	82K ohm, 5%, 1/8W, Carbon
	R216	Common	330 ohm, 5%, 1/8W, Carbon
	R218	EP14X283	680 ohm, 5%, 1/8W, Carbon
	R220	EP14X189	1.1K ohm, 5%, 1/8W, Carbon
	R221	EP14X293	680K ohm, 5%, 1/8W, Carbon
	R222	EP14X271	82K ohm, 5%, 1/8W, Carbon
	R224	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
	R226	ES14X59	560 ohm, 5%, 1/8W, Carbon
	R228	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
	R230	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R234	EP14X288	18K ohm, 5%, 1/8W, Carbon
	R240	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R250	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
	R252	EP14X303	22K ohm, 5%, 1/8W, Carbon

RESISTORS

	REF. NO.	PART NO.	DESCRIPTION
	R254	EP14X105	100K ohm, 5%, 1/8W, Carbon
	R256	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
	R258	EP14X285	15K ohm, 5%, 1/8W, Carbon
	R270	EP14X264	10 ohm, 5%, 1/8W, Carbon
	R300	Common	36K ohm, 5%, 1/8W, Carbon
	R302	EP14X285	15K ohm, 5%, 1/8W, Carbon
	R310	EP14X133	470K ohm, 5%, 1/8W, Carbon
	R312	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
	R316	EP14X128	330 ohm, 5%, 1/8W, Carbon
	R318	Common	43K ohm, 5%, 1/8W, Carbon
	R320	Common	1.2K ohm, 5%, 1/8W, Carbon
	R322	ES14X58	470 ohm, 5%, 1/8W, Carbon
	R326	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R328	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R336	Common	5.1K ohm, 5%, 1/8W, Carbon
	R338	EP14X105	100K ohm, 5%, 1/8W, Carbon
	R350	Common	3.6K ohm, 5%, 1/8W, Carbon
	R352	Common	3.6K ohm, 5%, 1/8W, Carbon
	R354	EP14X128	330 ohm, 5%, 1/8W, Carbon
	R355	EP14X128	330 ohm, 5%, 1/8W, Carbon
	R356	Common	3.6K ohm, 5%, 1/8W, Carbon
	R358	EP14X128	330 ohm, 5%, 1/8W, Carbon
	R370	EP14X284	1K ohm, 5%, 1/8W, Carbon
	R371	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
	R372	EP14X187	100 ohm, 5%, 1/8W, Carbon
	R380	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
	R381	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
	R389	Common	820K ohm, 10%, 1/8W, Carbon
	R390	Common	200 ohm, 5%, 1/8W, Carbon
	R391	Common	5.1K ohm, 5%, 1/8W, Carbon
	R503	EP14X323	6.8K ohm, 5%, 3W, Flame Proof
	R506	Common	5.1K ohm, 5%, 1/8W, Carbon
	R507	Common	11K ohm, 5%, 1/8W, Carbon
	R508	EP14X188	15 ohm, 5%, 1/8W, Carbon
	R509	EP14X119	68K ohm, 5%, 1/8W, Carbon
	R511	EP14X103	10K ohm, 5%, 1/8W, Carbon
	R513	EP14X103	10K ohm, 5%, 1/4W, Carbon
	R515	EP14X12	1 meg ohm, 5%, 1/8W, Carbon
	R516	Common	150K ohm, 5%, 1/8W, Carbon
	R517	Common	110K ohm, 5%, 1/8W, Carbon
	R518	Common	240K ohm, 5%, 1/8W, Carbon
	R519	Common	62K ohm, 5%, 1/8W, Carbon
	R521	EP14X187	100 ohm, 5%, 1/8W, Carbon
	R523	ES14X57	390 ohm, 5%, 1/8W, Carbon
	R525	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
	R527	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
	R529	Common	270 ohm, 5%, 1/8W, Carbon
	R531	ES14X56	33 ohm, 5%, 1/8W, Carbon
	R535	EP14X103	10K ohm, 5%, 1/8W, Carbon
	R537	EP14X125	47K ohm, 5%, 1/8W, Carbon
	R601	EP14X285	15K ohm, 5%, 1/8W, Carbon
	R603	ES14X51	47 ohm, 5%, 1/8W, Carbon
	R605	EP14X103	10K ohm, 5%, 1/8W, Carbon
	R609	EP14X122	7.5K ohm, 5%, 1/8W, Carbon
	R611	EP14X128	330 ohm, 5%, 1/8W, Carbon
	R613	EP14X243	2.2K ohm 5%, 1/8W, Carbon
	R615	EP14X285	20K ohm, 5%, 1/8W, Carbon
	R617	Common	220 ohm, 5%, 1/8W, Carbon
	R621	EP14X272	6.8 ohm, 5%, 1W, Metal Oxide
	R623	Common	8.2K ohm, 5%, 1/8W, Carbon
	R625	Common	220 ohm, 5%, 1/8W, Carbon
	R627	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
	R631	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
	R633	Common	8.2K ohm, 5%, 1/8W, Carbon
	R635	Common	180 ohm, 5%, 1/8W, Carbon
	R637	EP14X187	100 ohm, 5%, 1/8W, Carbon
	R639	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R641	EP14X188	15 ohm, 5%, 1/2W, Carbon
*	R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
*	R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
*	R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
	R649	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
	R651	Common	10 ohm, 5%, 1/2W, Carbon
*	R653	EP14X220	180 ohm, 5%, 2W, Metal Oxide
	R655	Common	2.7K ohm, 5%, 1/2W, Carbon
*	R702	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
*	R703	EP14X262	.47 ohm, 5%, 2W, Metal Oxide
*	R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
*	R900	EP14X106	1 meg ohm, 5%, 1/2W, Carbon
*	R901	EP14X113	Degaussing
	R903	EP14X105	100K ohm, 5%, 1/2W, Carbon
*	R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
*	R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
*	R921	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
	R923	ES14X79	1 ohm, 5%, 1/2W, Flame Proof
*	R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
*	R927	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
	R929	EP14X210	.82 ohm, 5%, 1W, Metal Oxide
	R932	Common	120 ohm, 5%, 1/4W, Carbon

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R932A	Common	120 ohm, 5%, 1/4W, Carbon
R933	Common	220K ohm, 5%, 1/2W, Carbon
* R935	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
* R936	EU13X4	1K ohm, 5%, 1/2W, Carbon
* R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R939	EP14X187	100 ohm, 5%, 1/2W, Carbon
* R941	EP14X154	22 ohm, 5%, 2W, Metal Oxide
R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
R952	Common	1.8 meg, ohm, 5%, 1/4W, Carbon
R954	EP14X105	100K ohm, 5%, 1/4W, Carbon
R955	EP14X252	3.9K ohm, 2%, 1/8W, Carbon
R957	EP14X284	1K ohm, 5%, 1/8W, Carbon
R959	EP14X284	1K ohm, 5%, 1/8W, Carbon
R961	ES14X71	1K ohm, 5%, 1/8W, Carbon
R963	Common	220 ohm, 5%, 1/8W, Carbon
R965	Common	6.2K ohm, 5%, 1/8W, Carbon
R969	ES14X56	33 ohm, 5%, 1/2W, Carbon
R971	EP14X128	330 ohm, 5%, 1/2W, Carbon
R973	ES14X58	470 ohm, 5%, 1/2W, Carbon
* R975	EP14X275	1K ohm, 10%, 3W, Wirewound
R981	EP14X318	3 ohm, 10%, 5W, Wirewound
* R983	EP14X321	470 ohm, 5%, 2W, Metal Oxide
R985	Common	240 ohm, 5%, 1/8W, Carbon
R990	EP14X269	20 ohm, 5%, 1/2W, Carbon
R996	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R998	Common	27K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO	DESCRIPTION
R116	EP49X463	RF/AFC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X464	Sharpness. 1K ohm, 20%
R262	EP49X463	Brightness, 5K ohm, 20%
R330	EP49X465	AFC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg., 1K ohm, 20%

INTERGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
	EP62X167	HVSD-Thick Film
IC101	EP84X213	VIF/Det/AFC
IC190	EP84X216	IF/Sound
IC300	EP84X221	Chroma/Video
IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V, 3 Ter. Regulator
CF100	EP41X126	Ceramic Filter, 4.5mhz, Audio
CF212	EP41X133	Ceramic Trap, 3.58mhz
SF101	EP41X123	Wave Filter
X300	EP41X10	Crystal-Quartz

TRANSISTORS

REF. NO.	PART NO	DESCRIPTION
SCR903	EP15X217	SCR Regulator, PNP
Q105	EP15X104	Pre Amp, HF, BiPolar
Q110	EP15X87	Video Emitter Follower NPN, Silicon
Q190	EP15X19	Audio Output, NPN, Silicon
Q192	EP15X19	Audio Output, NPN, Silicon
Q200	EP15X88	Regulator, NPN, Silicon
Q202	EP15X48	Beam Limiter, PNP, Silicon
Q204	EP15X88	Video Amp, NPN, Silicon
Q206	EP15X83	Emitter Follower, NPN, Silicon
Q207	EP15X57	Video Amp, PNP, Silicon
Q300	EP15X88	Burst Gate, NPN, Silicon
Q501	EP15X48	Noise Canceller, PNP, Silicon
Q601	EP15X105	Vertical Output, NPN, Silicon
Q603	EP15X105	Vertical Driver, NPN, Silicon
Q701	EP15X19	Horizontal Driver, NPN, Silicon
Q901	EP15X88	Error Amp, NPN, Silicon
Q903	EP15X91	Regulator Control, NPN, Silicon
Q905	EP15X57	Regulator Trigger, PNP, Silicon

DIODES

REF. NO	PART NO	DESCRIPTION
Y190	EP57X4	Rectifier, Silicon
Y192	EP57X4	Rectifier, Silicon
Y194	EP16X58	17 Volt, Zener
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X147	Schockley
Y350	EP16X58	17 Volt, Zener
Y352	EP16X58	17 Volt, Zener

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y354	EP16X58	17 Volt, Zener
Y370	ES16X27	Silicon
Y382	ES16X27	Silicon
Y501	ES16X27	Silicon
Y503	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP57X5	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
Y951	EP16X19	5.6 Volt, Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
* Y957	EP16X148	36 Volt, Zener
* Y958	EP16X148	36 Volt, Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963	EP16X154	Rectifier, Silicon
Y963A	EP16X154	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Silicon
Y992	EP57X5	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
L101	EP36X442	CHOKE-.82uh, 10%
L102	EP36X442	CHOKE-.82uh, 10%
L103	EP36X442	CHOKE-.82uh, 10%
L104	EP36X4	CHOKE-9.2uh
L105	EP36X312	COIL-4.5mc, Trap
L106	EP36X433	COIL-45.75mhz, Molded
L107	EP36X433	COIL-45.75mhz, Molded
L108	EP36X434	COIL-IF & 41.25mhz, Trap
L180	EP36X144	CHOKE-27uh, 5%
L190	EP36X435	COIL-Quad.
L196	ES36X82	CHOKE-220uh, 20%
L200	EP36X314	CHOKE-30uh, 10%
L204	EP36X17	CHOKE-150uh, 10%
L220	EP36X439	COIL-Delay Line
L236	EP36X136	CHOKE-15uh, 10%
L259	EP36X442	CHOKE-.82uh, 20%
L300	EP36X23	CHOKE-12uh, 5%
L320	EP36X33	CHOKE-56uh, 5%
L321	EP36X33	CHOKE-56uh, 5%
L322	EP36X33	CHOKE-56uh, 5%
* L703	EP36X437	CHOKE-Filament, H.V. Tuning
* L901	EP36X440	COIL-Line Choke Filter
* L909	EP36X441	CHOKE-3mh, Regulator
L921	EP36X136	CHOKE-15uh, 5%
L929	EP36X437	CHOKE-Filament, H.V. Tuning
T192	EP64X58	TRANSFORMER-Audio Output
* T701	EP77X56	TRANSFORMER-H.V.
* T703	EP64X57	TRANSFORMER-Buffer

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903
*	EP66X19	CORD-AC Power Polarized Wired-In-Type
FB206	EP12X4	FERRITE BEAD
FB921	EP12X8	FERRITE BEAD
FB963	EP12X8	FERRITE BEAD
FB963A	EP12X8	FERRITE BEAD
* F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
* F903	EP10X27	FUSE-1.25amp, 250V, Snap-In, Fast Acting
	EP3X38	WASHER-Shoulder, SCR 903, Q601 Q603

RGB CIRCUIT BOARD

EP93X377

CAPACITORS

REF. NO.	PART NO	DESCRIPTION
C403	EU22X216	.01uf, 20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C406	EP18X81	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C490	EP18X267	4700pf, 20%, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, 1/8W, Carbon
R404	EP14X289	430 ohm, 5%, 1/8W, Carbon
R405	ES14X59	560 ohm, 5%, 1/8W, Carbon
R411	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R413	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, 1/8W, Carbon
R415	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, 1/8W, Carbon
R417	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R418	EP14X128	330 ohm, 5%, 1/8W, Carbon
R424	EP14X187	100 ohm, 5%, 1/8W, Carbon
R426	EP14X187	100 ohm, 5%, 1/8W, Carbon
R428	ES14X70	100 ohm, 5%, 1/8W, Carbon
R430	Common	1 meg ohm, 5%, 1/4W, Carbon
R434	Common	200 ohm, 5%, 1/8W, Carbon
R436	Common	200 ohm, 5%, 1/8W, Carbon
R438	Common	200 ohm, 5%, 1/8W, Carbon
R454	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R456	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R458	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R464	ES14X64	2K ohm, 5%, 1/8W, Carbon
R466	ES14X64	2K ohm, 5%, 1/8W, Carbon
R468	ES14X64	2K ohm, 5%, 1/8W, Carbon
* R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
* R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
* R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	150 ohm, 20%
R446	EP49X469	150 ohm, 20%
R448	EP49X469	150 ohm, 20%
R474	EP49X470	5K ohm, 20%
R476	EP49X470	5K ohm, 20%
R478	EP49X470	5K ohm, 20%

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	Red Amp, NPN, Silicon
Q406	EP15X61	Green Amp, NPN, Silicon
Q408	EP15X61	Blue Amp, NPN, Silicon

COIL

REF. NO	PART NO.	DESCRIPTION
L403	ES36X82	CHOKE-220uh, 10%,

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL4	EP8X91	CONNECTOR-8 Pos
RL5	EP8X68	CONNECTOR-2 Pos
	EP34X65	SOCKET-CRT

HORIZONTAL HEAT SINK CIRCUIT BOARD

EP93X453

CAPACITORS

REF. NO	PART NO	DESCRIPTION
C1901	ES18X13	330pf, 20%, 2KV, Cer. Disc
* C1903	EP25X145	.011uf, 5%, 1.5KV, Polyester
* C1904	EP25X152	.1uf, 10%, 200V, Polypropylene
* C1905	EP25X91	.47uf, 10%, 400V, Polyester
C1907	EP18X207	330pf, 20%, 500V, Cer. Disc
C1915	EP25X151	2700pf, 10%, 200V, Mylar

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
* R1901	EP14X322	100 ohm, 10%, 5W, Wirewound
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y1903	EP57X5	Rectifier, Silicon
Y1905	EP57X5	Rectifier, Silicon
Y1907	EP57X5	Rectifier, Silicon

COILS

REF. NO	PART NO.	DESCRIPTION
* L1901	EP36X443	COIL-Width
L1903	EL36X536	CHOKE-5.6uh, 10%
* T1901	EP36X444	COIL-Pincushion Asm

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
EL12	EP8X30	CONNECTOR-1 Pin
FB1901	EP12X2	FERRITE-Bead
FB1903	EP12X2	FERRITE-Bead
R1903	EP49X160	HORIZ CENTERING
	EP3X52	SPACER-Q1901

VIR CIRCUIT BOARD

EP93X381

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
CV10	EP25X87	.047uf, 20%, 50V, Polyester
CV11	EP18X204	470pf, 10%, 50V, Cer. Disc
CV12	EP25X87	.047uf, 20%, 50V, Polyester
CV13	EP18X198	2200pf, 30%, 25V, Cer. Disc
CV14	EP31X35	10uf, 10%, 16V, Elect.
CV15	EP25X87	.047uf, 20%, 50V, Polyester
CV16	EP25X87	.047uf, 20%, 50V, Polyester
CV17	EP25X87	.047uf, 20%, 50V, Polyester
CV18	EP18X204	470pf, 10%, 50V, Cer. Disc
CV19	EP18X194	100pf, 10%, 50V, SHiK, Cer. Di
CV21	EP31X45	47uf, 10%, 25V, Elect.
CV22	EP18X197	1000pf, 20%, 50V, Cer. Disc
CV23	EP25X87	.047uf, 20%, 50V, Polyester
CV24	EP31X141	220uf, 10%, 16V, Elect.
CV25	EP18X169	1000pf, 30%, 25V, Cer. Disc
CV26	EP31X45	47uf, 10%, 16V, Elect.
CV27	EP25X87	.047uf, 20%, 50V, Polyester
CV29	EP25X87	.047uf, 20%, 50V, Polyester
CV30	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV31	EP25X87	.047uf, 20%, 50V, Polyester
CV32	EP25X87	.047uf, 20%, 50V, Polyester
CV33	EP31X55	100uf, 10%, 10V, Elect.
CV34	EP31X45	47uf, 10%, 16V, Elect.
CV35	EP25X87	.047uf, 20%, 50V, Polyester
CV36	EP18X271	1200pf, 20%, 50V, HiK, Cer. Disc
CV37	EP25X87	.047uf, 20%, 50V, Polyester
CV38	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV39	EP18X169	1000pf, 30%, 25V, Cer. Disc
CV40	EP18X204	470pf, 10%, 50V, Cer. Disc
CV51	EP18X214	.022uf, 20%, 500V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
RV10	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
RV11	ES14X71	1K ohm, 5%, 1/8W, Carbon
RV12	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
RV13	ES14X71	1K ohm, 5%, 1/8W, Carbon
RV14	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
RV16	ES14X71	1K ohm, 5%, 1/8W, Carbon
RV17	ES14X71	1K ohm, 5%, 1/8W, Carbon
RV18	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
RV19	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
RV20	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
RV21	EP14X125	47K ohm, 5%, 1/8W, Carbon
RV22	EP14X125	47K ohm, 5%, 1/8W, Carbon
RV23	ES14X71	1K ohm, 5%, 1/8W, Carbon
RV24	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
RV25	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
RV26	EP14X125	47K ohm, 5%, 1/8W, Carbon
RV27	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV28	EP14X125	47K ohm, 5%, 1/8W, Carbon
RV29	EP14X103	10K ohm, 5%, 1/8W, Carbon
RV30	EP14X288	18K ohm, 5%, 1/8W, Carbon
RV31	EP14X103	10K ohm, 5%, 1/8W, Carbon
RV32	EP14X140	330K ohm, 5%, 1/8W, Carbon

LMP91 TUNING SYSTEM

PRINTED CIRCUIT BOARD ASSEMBLIES

REF. NO.	PART NO.	DESCRIPTION
M-A	EP93X231	Phase Lock Loop/Wide Band Amp. Module
M-D	EP93X279	LMP91 Control Module
M-E	76-5-1901	LMP91 Remote Transmitter
M-G	EP93X225	Remote Receiver
M-K	EP93X226	Readout Interface Board
	EP93X334	VHF/UHF Tuner
	EP93X383	LMP-91 Audio Interface Module

PARTS NOT ON MODULES

REF NO.	PART NO.	DESCRIPTION
		RESISTORS
R128	EP14X48	10 ohm, 5%, 2W, Metal Oxide
R129	ES14X58	470 ohm, 5%, ¼W, Carbon
R130	EP14X105	100K ohm 5%, ¼W, Carbon
		TRANSISTOR
Q100	ES15X125	NPN, Silicon
		DIODES
Y129	EP16X155	Zener
Y130	EP57X5	Rectifier
		MISCELLANEOUS
	EP2X313	BRACKET - Readout Bd., Mounting, Plastic
	EP92X89	BRACKET - LMP-91 Controls Mounting, Plastic
	EP92X90	BRACKET - LMP-91 Support for Main Bracket
	EP8X97	CABLE - PLL/WBA to VHF
	EP8X103	CABLE - PLL/WBA to UHF
	EP41X60	CHANNEL NUMBER READOUT DISPLAY - Red
RL3	EP8X71	CONNECTOR - 6 Pos.
RL10	EP8X94	CONNECTOR - 4 Pos.
RL222	EP8X91	CONNECTOR - 8 Pos.
RL232	EP8X90	CONNECTOR - 3 Pins.
R247	EP8X92	CONNECTOR - 8 Pos.
	EP2X316	GROMMET - Transformer Screw
	EP62X135	KEYBOARD - On/Off, Vol., & Channel Select
	EP41X66	RELAY
	EP88X30	TRANSFORMER - LMP-91

PHASE LOCK LOOP WIDE BAND AMP BOARD (M-A)

EP93X231

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
AC02	EP18X169	.01uf, 30%, 25V, Cer. Disc
AC03	EP18X144	1000pf, 50V, No Leads
AC04	EP18X144	1000pf, 50V, No Leads
AC05	ES18X43	.01uf, 20%, 50V, Cer. Disc
AC06	EP18X219	30pf, 5%, 50V, Cer. Disc
AC07	EP18X169	.01uf, 30%, 25V, Cer. Disc
AC08	EP31X60	470uf, 16V, Electrolytic
AC11	EP18X169	.01uf, 30%, 25V, Cer. Disc
AC12	EP18X191	68pf, 5%, 50V, Cer. Disc
AC13	EP18X197	1000pf, 20%, 50V, Cer. Disc
AC14	EP18X171	6.8pf, 10%, 50V, Cer. Disc
AC15	EP30X3	2pf to 6pf, 50V, Trimmer
AC16	EP18X197	1000pf, 20%, 50V, Cer. Disc
AC17	EP18X197	1000pf, 20%, 50V, Cer. Disc
AC18	EP18X169	.01uf, 30%, 25V, Cer. Disc
AC19	EP18X169	.01uf, 30%, 25V, Cer. Disc
AC20	EP18X169	.01uf, 30%, 25V, Cer. Disc
AC28	EP18X197	1000pf, 10%, 50V, Cer. Disc
AC29	EP31X39	2.2uf, 20%, 25V, Electrolytic
AC30	EP18X118	.1uf, 25V, Cer. Disc
AC31	EP18X118	.1uf, 25V, Cer. Disc
AC32	EP31X71	.22uf, 20%, 25V, Electrolytic Dry Alum.
AC34	EP31X16	1uf, 50V, Electrolytic
AC35	EP31X45	47uf, 10V, Electrolytic
AC36	EU23X4	1000pf, 500V, Feed Thru
AC39	EP21X6	.047uf, 20%, 50V, Mylar
AC40	EP18X167	.047uf, 50V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
AR01	ES14X65	4.7K ohm, 5%, ¼W, Carbon
AR03	EP14X281	24 ohm, 5%, 1W, Metal Oxide
AR04	EP14X188	15 ohm, 5%, ¼W, Carbon
AR05	ES14X59	560 ohm, 5%, ¼W, Carbon
AR06	Common	91 ohm, 5%, ¼W, Carbon
AR07	Common	11K ohm, 5%, ¼W, Carbon
AR08	EP14X104	22K ohm, 5%, ¼W, Carbon
AR13	ES14X65	4.7K ohm, 5%, ¼W, Carbon
AR14	EP14X103	10K ohm, 5%, ¼W, Carbon
AR15	EP14X103	10K ohm, 5%, ¼W, Carbon
AR16	EP14X103	10K ohm, 5%, ¼W, Carbon
AR17	EP14X103	10K ohm, 5%, ¼W, Carbon
AR18	EP14X243	2.2K ohm, 5%, ¼W, Carbon
AR19	EP14X243	2.2K ohm, 5%, ¼W, Carbon
AR20	EP14X136	33K ohm, 5%, ¼W, Carbon
AR21	EP14X183	3.3K ohm, 5%, ¼W, Carbon
AR22	Common	75K ohm, 5%, ¼W, Carbon
AR23	EP14X243	2.2K ohm, 5%, ¼W, Carbon
AR24	EP14X103	10K ohm, 5%, ¼W, Carbon
AR25	EP14X243	2.2K ohm, 5%, ¼W, Carbon
AR27	Common	43 ohm, 5%, ¼W, Carbon
AR28	Common	24K ohm, 5%, ¼W, Carbon
AR30	ES14X64	2K ohm, 5%, ¼W, Carbon
AR31	Common	430 ohm, 5%, ¼W, Carbon
AR32	Common	430 ohm, 5%, ¼W, Carbon
AR34	Common	9.1K ohm, 5%, ¼W, Carbon
AR35	EP14X125	47K ohm, 5%, ¼W, Carbon
AR36	EP14X125	47K ohm, 5%, ¼W, Carbon
AR39	EP14X196	180K ohm, 5%, ¼W, Carbon
AR40	Common	43 ohm, 5%, ¼W, Carbon

DIODES

REF. NO.	PART NO.	DESCRIPTION
AY01	EP16X25	Zener, 1W
AY02	EP16X12	Zener, 1W

CRYSTALS

REF. NO.	PART NO.	DESCRIPTION
AX01	EP41X68	Crystal—Filter

CHOKE

REF. NO.	PART NO.	DESCRIPTION
AL01	ES36X28	Filament

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
AIC01	EP84X113	256 W/Pre Amp
AIC02	EP84X114	Serial Input PLL Freq. Syn.

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
AQ05	EP15X104	High Frequency, VHF
AQ15	EP15X88	NPN, Inverter
AQ20	EP15X88	NPN, Integrator, Phase Lock
AQ25	EP15X88	NPN, Integrator, Phase Lock
AQ30	EP15X88	NPN, Integrator, Phase Lock
AQ35	EP15X88	NPN, Integrator, Phase Lock
AQ40	EP15X89	NPN, Integrator, Phase Lock

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL243	EP8X92	CONNECTOR - 10 Pos.
	EP8X32	JACK - Phono
	EP34X52	SOCKET - IC02

LMP91 CONTROL MODULE (M-D)

EP93X279

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
DC01	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC02	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC03	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC04	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC05	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC06	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC07	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC08	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC09	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC10	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC11	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC12	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC13	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC14	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC15	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC20	EP25X87	.047uf, 20%, 50V, Polyester
DC21	EP18X140	680pf, 5%, 50V, Cer. Disc
DC22	EP18X158	820pf, 5%, 50V, Cer. Disc
DC23	EP18X140	680pf, 5%, 50V, Cer. Disc
DC24	EP18X158	820pf, 5%, 50V, Cer. Disc
DC25	EP25X87	.047uf, 20%, 50V, Polyester
DC26	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC28	EP18X194	100pf, 5%, 50V, Cer. Disc
DC30	EP31X80	2.2uf, 50V, Electrolytic
DC31	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC40	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC41	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC42	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC43	EP18X206	.022uf, 30%, 50V, Cer. Disc
DC44	EP18X167	.047uf, +80%—20%, 50V, Cer. Disc
DC45	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC46	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC47	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC48	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC49	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC50	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC51	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC52	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC53	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC54	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC55	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC56	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC57	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC60	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC61	EP31X35	10uf, 35V, Electrolytic
DC63	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC64	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC65	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC66	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC67	EP25X87	.047uf, 20%, 50V, Polyester
DC68	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC69	EP31X45	47uf, 25V, Electrolytic
DC70	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC71	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC72	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC74	EP25X87	.047uf, 20%, 50V, Polyester
DC76	EP25X87	.047uf, 20%, 50V, Polyester
DC90	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC91	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC92	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC94	EP31X11	4.7uf, 35V, Electrolytic
DC95	EP18X81	1000pf, 20%, 50V, Cer. Disc
DC96	EP18X81	1000pf, 20%, 50V, Cer. Disc
DC98	EP31X59	470uf, 25V, Electrolytic
DC99	EP31X44	22uf, 16V, Electrolytic
DC100	EP25X87	.047uf, 20%, 50V, Polyester
DC101	EP31X45	47uf, 16V, Electrolytic
DC102	EP25X87	.047uf, 20%, 50V, Polyester
DC103	EP25X87	.047uf, 20%, 50V, Polyester
DC104	EP25X87	.047uf, 20%, 50V, Polyester

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
DR01	EP14X187	100 ohm, 5%, ¼W, Carbon
DR02	EP14X103	10K ohm, 5%, ¼W, Carbon
DR03	EP14X125	47K ohm, 5%, ¼W, Carbon
DR04	EP14X103	10K ohm, 5%, ¼W, Carbon
DR05	EP14X103	10K ohm, 5%, ¼W, Carbon
DR06	EP14X103	10K ohm, 5%, ¼W, Carbon
DR07	EP14X125	47K ohm, 5%, ¼W, Carbon
DR08	EP14X103	10K ohm, 5%, ¼W, Carbon
DR09	EP14X103	10K ohm, 5%, ¼W, Carbon
DR10	EP14X103	10K ohm, 5%, ¼W, Carbon
DR11	EP14X125	47K ohm, 5%, ¼W, Carbon
DR12	EP14X103	10K ohm, 5%, ¼W, Carbon
DR13	EP14X103	10K ohm, 5%, ¼W, Carbon
DR14	EP14X103	10K ohm, 5%, ¼W, Carbon
DR15	EP14X125	47K ohm, 5%, ¼W, Carbon
DR16	EP14X103	10K ohm, 5%, ¼W, Carbon
DR23	ES14X65	4.7K ohm, 5%, ¼W, Carbon
DR24	EP14X103	10K ohm, 5%, ¼W, Carbon
DR25	EP14X103	10K ohm, 5%, ¼W, Carbon
DR26	Common	270 ohm, 5%, ¼W, Carbon
DR28	Common	43K ohm, 5%, ¼W, Carbon
DR30	EP14X125	47K ohm, 5%, ¼W, Carbon
DR31	EP14X103	10K ohm, 5%, ¼W, Carbon
DR40	ES14X65	4.7K ohm, 5%, ¼W, Carbon
DR41	EP14X103	10K ohm, 5%, ¼W, Carbon
DR42	ES14X65	4.7K ohm, 5%, ¼W, Carbon
DR43	EP14X103	10K ohm, 5%, ¼W, Carbon
DR44	ES14X65	4.7K ohm, 5%, ¼W, Carbon
DR45	EP14X103	10K ohm, 5%, ¼W, Carbon
DR46	EP14X243	2.2K ohm, 5%, ¼W, Carbon
DR47	EP14X103	10K ohm, 5%, ¼W, Carbon
DR48	EP14X243	2.2K ohm, 5%, ¼W, Carbon
DR49	EP14X103	10K ohm, 5%, ¼W, Carbon
DR50	EP14X243	2.2K ohm, 5%, ¼W, Carbon
DR51	EP14X103	10K ohm, 5%, ¼W, Carbon
DR52	EP14X243	2.2K ohm, 5%, ¼W, Carbon
DR53	EP14X103	10K ohm, 5%, ¼W, Carbon
DR54	EP14X243	2.2K ohm, 5%, ¼W, Carbon
DR55	EP14X103	10K ohm, 5%, ¼W, Carbon
DR56	EP14X243	2.2K ohm, 5%, ¼W, Carbon
DR57	EP14X103	10K ohm, 5%, ¼W, Carbon
DR60	Common	3.9K ohm, 5%, ¼W, Carbon
DR61	Common	1.2K ohm, 5%, ¼W, Carbon
DR63	EP14X103	10K ohm, 5%, ¼W, Carbon
DR64	EP14X104	22K ohm, 5%, ¼W, Carbon
DR65	EP14X136	33K ohm, 5%, ¼W, Carbon
DR66	Common	100K ohm, 5%, ¼W, Carbon
DR67	Common	100K ohm, 5%, ¼W, Carbon
DR70	EP14X103	10K ohm, 5%, ¼W, Carbon
DR71	EP14X104	22K ohm, 5%, ¼W, Carbon
DR72	EP14X104	22K ohm, 5%, ¼W, Carbon
DR73	Common	100K ohm, 5%, ¼W, Carbon
DR74	Common	15K ohm, 5%, ¼W, Carbon
DR75	Common	27K ohm, 5%, ¼W, Carbon
DR76	EP14X125	47K ohm, 5%, ¼W, Carbon
DR78	EP14X123	39K ohm, 5%, 2W, Carbon
DR79	EP14X125	47K ohm, 5%, ¼W, Carbon
DR80	Common	240K ohm, 5%, ¼W, Carbon
DR81	EP14X119	68K ohm, 5%, ¼W, Carbon
DR82	EP14X271	82K ohm, 2%, ¼W, Carbon
DR83	EP14X119	68K ohm, 5%, ¼W, Carbon
DR84	EP14X271	33K ohm, 2%, ¼W, Carbon
DR86	EP14X271	16K ohm, 2%, ¼W, Carbon
DR87	EP14X271	8.2K ohm, 2%, ¼W, Carbon
DR88	Common	7.5K ohm, 5%, ¼W, Carbon
DR89	EP14X271	8.2K ohm, 2%, ¼W, Carbon
DR90	Common	160 ohm, 5%, ¼W, Carbon
DR92	ES14X71	1K ohm, 5%, ¼W, Carbon
DR94	EP14X187	100 ohm, 5%, ¼W, Carbon
DR99	ES14X58	470 ohm, 5%, ¼W, Carbon
DR100	ES14X	
DR104	Commo	
DR108	Commo	
DR112	Commo	
DR116	Commo	
DR93	EP49X	
DT21	EP36X	
DT22	EP36X	
DT23	EP36X	
DT24	EP36X	
DY05	ES16X2	
DY06	ES16X2	
DY07	ES16X2	
DY08	ES16X2	
DY12	ES16X2	
DY13	ES16X2	
DY21	ES16X2	
DY22	ES16X2	
DY23	ES16X2	
DY24	ES16X2	
DY29	ES16X2	
DY30	ES16X2	
DY31	ES16X2	
DY61	EP16X3	
DY75	ES16X2	
DY88	ES16X2	
DY90	ES16X2	
DY94	ES16X2	
DY95	EP57X4	
DY96	EP57X4	
DY97	ES16X2	
DY98	EP16X7	
DY99	ES16X2	
DIC35	EP84X1	
DQ04	EP15X12	
DQ08	EP15X12	
DQ12	EP15X12	
DQ16	EP15X12	
DQ21	EP15X88	
DQ22	EP15X88	
DQ23	EP15X88	
DQ24	EP15X88	
DQ25	EP15X88	
DQ30	EP15X12	
DQ65	EP15X88	
DQ67	EP15X57	
DQ72	EP15X88	
DQ74	EP15X53	
DQ76	EP15X53	
DQ90	EP15X89	
DQ92	EP15X88	
DQ94	EP15X12	
DQ99	ES15X12	
	EP34X54	
RL242	Not Availa	
RL251	Not Availa	
RL231	Not Availa	
RL225	Not Availa	
RL244	Not Availa	
RL245	Not Availa	
RL250	Not Availa	

G SYSTEM

BOARD ASSEMBLIES

DESCRIPTION
Phase Lock Loop/Wide Band
Amp. Module
LMP91 Control Module
LMP91 Remote Transmitter
Remote Receiver
Readout Interface Board
VHF/UHF Tuner
LMP-91 Audio Interface Module

ON MODULES

DESCRIPTION

ISTORS

10 ohm, 5%, 2W, Metal Oxide
470 ohm, 5%, ¼W, Carbon
100K ohm 5%, ¼W, Carbon

ISISTOR

NPN, Silicon

ODES

Zener
Rectifier

LANEOUS

BRACKET - Readout Bd., Mounting, Plastic
BRACKET - LMP-91 Controls Mounting, Plastic
BRACKET - LMP-91 Support for Main Bracket
CABLE - PLL/WBA to VHF
CABLE - PLL/WBA to UHF
CHANNEL NUMBER READOUT
DISPLAY - Red
CONNECTOR - 6 Pos.
CONNECTOR - 4 Pos.
CONNECTOR - 8 Pos.
CONNECTOR - 3 Pins.
CONNECTOR - 8 Pos.
GROMMET - Transformer Screw
KEYBOARD - On/Off, Vol., & Channel Select
RELAY
TRANSFORMER - LMP-91

OCK LOOP
IP BOARD (M-A)

X231

CITORS

DESCRIPTION
.01uf, 30%, 25V, Cer. Disc
1000pf, 50V, No Leads
1000pf, 50V, No Leads
.01uf, 20%, 50V, Cer. Disc
30pf, 5%, 50V, Cer. Disc
.01uf, 30%, 25V, Cer. Disc
470uf, 16V, Electrolytic
.01uf, 30%, 25V, Cer. Disc

AC12	EP18X191	68pf, 5%, 50V, Cer. Disc
AC13	EP18X197	1000pf, 20%, 50V, Cer. Disc
AC14	EP18X171	6.8pf, 10%, 50V, Cer. Disc
AC15	EP30X3	2pf to 6pf, 50V, Trimmer
AC16	EP18X197	1000pf, 20%, 50V, Cer. Disc
AC17	EP18X197	1000pf, 20%, 50V, Cer. Disc
AC18	EP18X169	.01uf, 30%, 25V, Cer. Disc
AC19	EP18X169	.01uf, 30%, 25V, Cer. Disc
AC20	EP18X169	.01uf, 30%, 25V, Cer. Disc
AC28	EP18X197	1000pf, 10%, 50V, Cer. Disc
AC29	EP31X39	2.2uf, 20%, 25V, Electrolytic
AC30	EP18X118	.1uf, 25V, Cer. Disc
AC31	EP18X118	.1uf, 25V, Cer. Disc
AC32	EP31X71	.22uf, 20%, 25V, Electrolytic Dry Alum.
AC34	EP31X16	1uf, 50V, Electrolytic
AC35	EP31X45	47uf, 10V, Electrolytic
AC36	EU23X4	1000pf, 500V, Feed Thru
AC39	EP21X6	.047uf, 20%, 50V, Mylar
AC40	EP18X167	.047uf, 50V, Cer. Disc

RESISTORS

AR01	ES14X65	4.7K ohm, 5%, ¼W, Carbon
AR03	EP14X281	24 ohm, 5%, 1W, Metal Oxide
AR04	EP14X188	15 ohm, 5%, ¼W, Carbon
AR05	ES14X59	560 ohm, 5%, ¼W, Carbon
AR06	Common	91 ohm, 5%, ¼W, Carbon
AR07	Common	11K ohm, 5%, ¼W, Carbon
AR08	EP14X104	22K ohm, 5%, ¼W, Carbon
AR13	ES14X65	4.7K ohm, 5%, ¼W, Carbon
AR14	EP14X103	10K ohm, 5%, ¼W, Carbon
AR15	EP14X103	10K ohm, 5%, ¼W, Carbon
AR16	EP14X103	10K ohm, 5%, ¼W, Carbon
AR17	EP14X103	10K ohm, 5%, ¼W, Carbon
AR18	EP14X243	2.2K ohm, 5%, ¼W, Carbon
AR19	EP14X243	2.2K ohm, 5%, ¼W, Carbon
AR20	EP14X136	33K ohm, 5%, ¼W, Carbon
AR21	EP14X183	3.3K ohm, 5%, ¼W, Carbon
AR22	Common	75K ohm, 5%, ¼W, Carbon
AR23	EP14X243	2.2K ohm, 5%, ¼W, Carbon
AR24	EP14X103	10K ohm, 5%, ¼W, Carbon
AR25	EP14X243	2.2K ohm, 5%, ¼W, Carbon
AR27	Common	43 ohm, 5%, ¼W, Carbon
AR28	Common	24K ohm, 5%, ¼W, Carbon
AR30	ES14X64	2K ohm, 5%, ¼W, Carbon
AR31	Common	430 ohm, 5%, ¼W, Carbon
AR32	Common	430 ohm, 5%, ¼W, Carbon
AR34	Common	9.1K ohm, 5%, ¼W, Carbon
AR35	EP14X125	47K ohm, 5%, ¼W, Carbon
AR36	EP14X125	47K ohm, 5%, ¼W, Carbon
AR39	EP14X196	180K ohm, 5%, ¼W, Carbon
AR40	Common	43 ohm, 5%, ¼W, Carbon

DIODES

AY01	EP16X25	Zener, 1W
AY02	EP16X12	Zener, 1W

CRYSTALS

AX01	EP41X68	Crystal—Filter

CHOKE

AL01	ES36X28	Filament

INTEGRATED CIRCUITS

AIC01	EP84X113	256 W/Pre Amp
AIC02	EP84X114	Serial Input PLL Freq. Syn.

TRANSISTORS

AQ05	EP15X104	High Frequency, VHF
AQ15	EP15X88	NPN, Inverter
AQ20	EP15X88	NPN, Integrator, Phase Lock
AQ25	EP15X88	NPN, Integrator, Phase Lock
AQ30	EP15X88	NPN, Integrator, Phase Lock
AQ35	EP15X88	NPN, Integrator, Phase Lock
AQ40	EP15X89	NPN, Integrator, Phase Lock

MISCELLANEOUS

RL243	EP8X92	CONNECTOR - 10 Pos.
	EP8X32	JACK - Phono
	EP34X52	SOCKET - IC02

LMP91 CONTROL MODULE (M-D)

EP93X279

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
DC01	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC02	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC03	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC04	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC05	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC06	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC07	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC08	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC09	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC10	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC11	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC12	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC13	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC14	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC15	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC20	EP25X87	.047uf, 20%, 50V, Polyester
DC21	EP18X140	680pf, 5%, 50V, Cer. Disc
DC22	EP18X158	820pf, 5%, 50V, Cer. Disc
DC23	EP18X140	680pf, 5%, 50V, Cer. Disc
DC24	EP18X158	820pf, 5%, 50V, Cer. Disc
DC25	EP25X87	.047uf, 20%, 50V, Polyester
DC26	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC28	EP18X194	100pf, 5%, 50V, Cer. Disc
DC30	EP31X80	2.2uf, 50V, Electrolytic
DC31	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC40	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC41	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC42	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC43	EP18X206	.022uf, 30%, 50V, Cer. Disc
DC44	EP18X167	.047uf, +80%—20%, 50V, Cer. Disc
DC45	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC46	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC47	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC48	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC49	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC50	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC51	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC52	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC53	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC54	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC55	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC56	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC57	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC60	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC61	EP31X35	10uf, 35V, Electrolytic
DC63	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC64	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC65	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC66	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC67	EP25X87	.047uf, 20%, 50V, Polyester
DC68	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC69	EP31X45	47uf, 25V, Electrolytic
DC70	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC71	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC72	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC74	EP25X87	.047uf, 20%, 50V, Polyester
DC76	EP25X87	.047uf, 20%, 50V, Polyester
DC90	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC91	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC92	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC94	EP31X11	4.7uf, 35V, Electrolytic
DC95	EP18X81	1000pf, 20%, 50V, Cer. Disc
DC96	EP18X81	1000pf, 20%, 50V, Cer. Disc
DC98	EP31X59	470uf, 25V, Electrolytic
DC99	EP31X44	22uf, 16V, Electrolytic
DC100	EP25X87	.047uf, 20%, 50V, Polyester
DC101	EP31X45	47uf, 16V, Electrolytic
DC102	EP25X87	.047uf, 20%, 50V, Polyester
DC103	EP25X87	.047uf, 20%, 50V, Polyester
DC104	EP25X87	.047uf, 20%, 50V, Polyester

RESISTORS

DR01	EP14X187	100 ohm, 5%, ¼W, Carbon
DR02	EP14X103	10K ohm, 5%, ¼W, Carbon
DR03	EP14X125	47K ohm, 5%, ¼W, Carbon
DR04	EP14X103	10K ohm, 5%, ¼W, Carbon
DR05	EP14X103	10K ohm, 5%, ¼W, Carbon
DR06	EP14X103	10K ohm, 5%, ¼W, Carbon
DR07	EP14X125	47K ohm, 5%, ¼W, Carbon
DR08	EP14X103	10K ohm, 5%, ¼W, Carbon
DR09	EP14X103	10K ohm, 5%, ¼W, Carbon
DR10	EP14X103	10K ohm, 5%, ¼W, Carbon
DR11	EP14X125	47K ohm, 5%, ¼W, Carbon
DR12	EP14X103	10K ohm, 5%, ¼W, Carbon
DR13	EP14X103	10K ohm, 5%, ¼W, Carbon
DR14	EP14X103	10K ohm, 5%, ¼W, Carbon
DR15	EP14X125	47K ohm, 5%, ¼W, Carbon
DR16	EP14X103	10K ohm, 5%, ¼W, Carbon
DR23	ES14X65	4.7K ohm, 5%, ¼W, Carbon
DR24	EP14X103	10K ohm, 5%, ¼W, Carbon
DR25	EP14X103	10K ohm, 5%, ¼W, Carbon
DR26	Common	270 ohm, 5%, ¼W, Carbon
DR28	Common	43K ohm, 5%, ¼W, Carbon
DR30	EP14X125	47K ohm, 5%, ¼W, Carbon
DR31	EP14X103	10K ohm, 5%, ¼W, Carbon
DR40	ES14X65	4.7K ohm, 5%, ¼W, Carbon
DR41	EP14X103	10K ohm, 5%, ¼W, Carbon
DR42	ES14X65	4.7K ohm, 5%, ¼W, Carbon
DR43	EP14X103	10K ohm, 5%, ¼W, Carbon
DR44	ES14X65	4.7K ohm, 5%, ¼W, Carbon
DR45	EP14X103	10K ohm, 5%, ¼W, Carbon
DR46	EP14X243	2.2K ohm, 5%, ¼W, Carbon
DR47	EP14X103	10K ohm, 5%, ¼W, Carbon
DR48	EP14X243	2.2K ohm, 5%, ¼W, Carbon
DR49	EP14X103	10K ohm, 5%, ¼W, Carbon
DR50	EP14X243	2.2K ohm, 5%, ¼W, Carbon
DR51	EP14X103	10K ohm, 5%, ¼W, Carbon
DR52	EP14X243	2.2K ohm, 5%, ¼W, Carbon
DR53	EP14X103	10K ohm, 5%, ¼W, Carbon
DR54	EP14X243	2.2K ohm, 5%, ¼W, Carbon
DR55	EP14X103	10K ohm, 5%, ¼W, Carbon
DR56	EP14X243	2.2K ohm, 5%, ¼W, Carbon
DR57	EP14X103	10K ohm, 5%, ¼W, Carbon
DR60	Common	3.9K ohm, 5%, ¼W, Carbon
DR61	Common	1.2K ohm, 5%, ½W, Carbon
DR63	EP14X103	10K ohm, 5%, ¼W, Carbon
DR64	EP14X104	22K ohm, 5%, ¼W, Carbon
DR65	EP14X136	33K ohm, 5%, ¼W, Carbon
DR66	Common	100K ohm, 5%, ¼W, Carbon
DR67	Common	100K ohm, 5%, ¼W, Carbon
DR70	EP14X103	10K ohm, 5%, ¼W, Carbon
DR71	EP14X104	22K ohm, 5%, ¼W, Carbon
DR72	EP14X104	22K ohm, 5%, ¼W, Carbon
DR73	Common	100K ohm, 5%, ¼W, Carbon
DR74	Common	15K ohm, 5%, ¼W, Carbon
DR75	Common	27K ohm, 5%, ¼W, Carbon
DR76	EP14X125	47K ohm, 5%, ¼W, Carbon
DR78	EP14X123	39K ohm, 5%, 2W, Carbon
DR79	EP14X125	47K ohm, 5%, ¼W, Carbon
DR80	Common	240K ohm, 5%, ¼W, Carbon
DR81	EP14X119	68K ohm, 5%, ¼W, Carbon
DR82	EP14X271	82K ohm, 2%, ¼W, Carbon
DR83	EP14X119	68K ohm, 5%, ¼W, Carbon
DR84	EP14X271	33K ohm, 2%, ¼W, Carbon
DR86	EP14X271	16K ohm, 2%, ¼W, Carbon
DR87	EP14X271	8.2K ohm, 2%, ¼W, Carbon
DR88	Common	7.5K ohm, 5%, ¼W, Carbon
DR89	EP14X271	8.2K ohm, 2%, ¼W, Carbon
DR90	Common	160 ohm, 5%, ¼W, Carbon
DR92	ES14X71	1K ohm, 5%, ¼W, Carbon
DR94	EP14X187	100 ohm, 5%, ¼W, Carbon
DR99	ES14X58	470 ohm, 5%, ¼W, Carbon
DR100	ES14X79	1 ohm, 5%, ½W, Carbon
DR104	Common	100K ohm, 5%, ¼W, Carbon
DR108	Common	100K ohm, 5%, ¼W, Carbon
DR112	Common	100K ohm, 5%, ¼W, Carbon
DR116	Common	100K ohm, 5%, ¼W, Carbon

CONTROLS

DR93	EP49X381	Electronic Tuning, 1K ohm, 20%

COILS

DT21	EP36X364	Remote Control
DT22	EP36X364	Remote Control
DT23	EP36X364	Remote Control
DT24	EP36X364	Remote Control

DIODES

DY05	ES16X27	Silicon
DY06	ES16X27	Silicon
DY07	ES16X27	Silicon
DY08	ES16X27	Silicon
DY12	ES16X27	Silicon
DY13	ES16X27	Silicon
DY21	ES16X27	Silicon
DY22	ES16X27	Silicon
DY23	ES16X27	Silicon
DY24	ES16X27	Silicon
DY29	ES16X27	Silicon
DY30	ES16X27	Silicon
DY31	ES16X27	Silicon
DY61	EP16X32	Zener
DY75	ES16X27	Silicon
DY88	ES16X27	Silicon
DY90	ES16X27	Silicon
DY94	ES16X27	Silicon
DY95	EP57X4	Rectifier
DY96	EP57X4	Rectifier
DY97	ES16X27	Silicon
DY98	EP16X72	Zener
DY99	ES16X27	Silicon

INTEGRATED CIRCUITS

DIC35	EP84X116	LMP91 Control

TRANSISTORS

DQ04	EP15X126	PNP, Pull-Up
DQ08	EP15X126	PNP, Pull-Up
DQ12	EP15X126	PNP, Pull-Up
DQ16	EP15X126	PNP, Remote Control, On/Off
DQ21	EP15X88	NPN, Remote Control, On/Off
DQ22	EP15X88	NPN, Remote Control, On/Off
DQ23	EP15X88	NPN, Remote Control, On/Off
DQ24	EP15X88	NPN, Remote Control, On/Off
DQ25	EP15X88	NPN, Current Source
DQ30	EP15X126	PNP, Reset
DQ65	EP15X88	NPN, Hi-Lo Band Switch
DQ67	EP15X57	PNP, Hi-Lo Band Switch
DQ72	EP15X88	NPN, UHF/VHF Band Switch
DQ74	EP15X53	PNP, UHF/VHF Band Switch
DQ76	EP15X53	PNP, UHF/VHF Band Switch
DQ90	EP15X89	NPN, Relay, On/Off
DQ92	EP15X88	NPN, Audio Control
DQ94	EP15X126	PNP, Audio Control
DQ99	ES15X125	NPN, 9 Volt Standby Reg.

MISCELLANEOUS

	EP34X54	Socket—IC35, 28 Pin
RL242	Not Available	Part of Module
RL251	Not Available	Part of Module
RL231	Not Available	Part of Module
RL225	Not Available	Part of Module
RL244	Not Available	Part of Module
RL245	Not Available	Part of Module
RL250	Not Available	Part of Module

LMP91 REMOTE TRANSMITTER (M-E)

76-5-1901

MISCELLANEOUS

EP4X225	Case—Remote Transmitter, Without Battery Cover
EP4X224	Cover—For Battery, Black, Plastic
EP4X226	Keys - Channel Select (For EP93X212)
EP4X270	Keys—Channel Select (For EP93X259)
EP93X212	Remote Transmitter Circuit Board Complete (Uses Key EP4X226)
EP93X259	Remote Transmitter Circuit Board Complete (Uses Key EP4X270)
EP39X145	Switch—Push (Uses Four) Used with EP93X212 Ckt. Bd.
EP39X150	Switch—Push (Uses Four) Used with EP93X259 Ckt. Bd.

EP93X212

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
EC01	EP20X24	120pf, 5%, 50V, Mica
EC02	EP20X25	220pf, 5%, 50V, Mica
EC03	EP20X26	390pf, 5%, 50V, Mica
EC04	EP20X27	560pf, 5%, 50V, Mica
EC05	EP20X26	390pf, 5%, 50V, Mica
EC06	EP18X169	.01uf, 30%, 25V, Cer. Disc
EC07	EP18X169	.01uf, 30%, 25V, Cer. Disc
EC08	EP18X221	1500pf, 30%, 25V, Cer. Disc
EC09	EP31X55	100uf, 10V, Electrolytic

RESISTORS

ER01	EP14X133	470K ohm, 5%, ½W, Carbon
ER02	EP14X103	10K ohm, 5%, ½W, Carbon
ER03	Common	3K ohm, 5%, ½W, Carbon
ER04	EP14X125	47K ohm, 5%, ½W, Carbon
ER05	EP14X103	10K ohm, 5%, ½W, Carbon
ER06	Common	750 ohm, 5%, ½W, Carbon
ER07	Common	33 ohm, 5%, ½W, Carbon

COIL

ET1	EP36X364	Remote Control

DIODES

EY01	EP16X33	Infrared
EY02	EP16X33	Infrared
EY03	EP16X33	Infrared

TRANSISTORS

EQ01	EP15X88	NPN, Oscillator
EQ02	EP15X88	NPN, Driver
EQ03	EP15X48	PNP, Driver

EP93X259

CAPACITORS

EC01	EP20X24	120pf, 5%, 50V Mica
EC02	EP20X25	220pf, 5%, 50V Mica
EC03	EP20X26	390pf, 5%, 50V Mica
EC04	EP20X27	560pf, 5%, 50V Mica
EC05	EP20X26	390pf, 5%, 50V Mica
EC06	EP18X169	.01uf, 30%, 25V, Cer. Disc.
EC07	EP18X169	.01uf, 30%, 25V, Cer. Disc.
EC08	EP18X221	1500pf, 30%, 25V, Cer. Disc.

RESISTORS

ER01	EP14X133	470K ohm, 5%, ½W, Carbon
ER02	EP14X103	10K ohm, 5%, ½W, Carbon
ER03	Common	3K ohm, 5%, ½W, Carbon
ER04	EP14X125	47K ohm, 5%, ½W, Carbon
ER05	EP14X103	10K ohm, 5%, ½W, Carbon
ER06	Common	750 ohm, 5%, ½W, Carbon
ER07	ES14X58	33 ohm, 5%, ½W, Carbon

COIL

ET1	EP36X347	Remote Control

DIODES

EY01	EP16X33	Infrared
EY02	EP16X33	Infrared
EY03	EP16X33	Infrared

TRANSISTORS

EQ01	EP15X88	NPN, Oscillator
EQ02	EP15X88	NPN, Driver
EQ03	EP15X48	PNP, Driver

LMP91 REMOTE RECEIVER (M-G)

EP93X225

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
GC01	EP18X118	.1uf, 10%, 25V, Cer. Disc
GC02	EP18X218	680pf, 20%, 50V, Cer. Disc
GC03	EP31X52	2.2uf, 50V, Electrolytic
GC04	EP18X203	270pf, 10%, 50V, Cer. Disc
GC08	EP18X74	330pf, 20%, 50V, Cer. Disc
GC10	EP18X203	270pf, 10%, 50V, Cer. Disc
GC12	EP31X45	47uf, 16V, Electrolytic
GC15	EP18X203	270pf, 10%, 50V, Cer. Disc
GC16	EP31X44	22uf, 10V, Electrolytic
GC17	ES25X8	.022uf, 20%, 50V, Polyester
GC24	EP18X81	1000pf, 20%, 50V, Cer. Disc
GC25	EP18X118	.1uf, 10%, 25V, Cer. Disc

RESISTORS

GR01	EP14X243	2.2K ohm, 5%, ½W, Carbon
GR02	Common	100K ohm, 5%, ½W, Carbon
GR03	Common	4.3K ohm, 5%, ½W, Carbon
GR04	Common	5.1K ohm, 5%, ½W, Carbon
GR05	Common	100K ohm, 5%, ½W, Carbon
GR08	EP14X125	47K ohm, 5%, ½W, Carbon
GR09	Common	220K ohm, 5%, ½W, Carbon
GR10	Common	6.8K ohm, 5%, ½W, Carbon
GR11	Common	430 ohm, 5%, ½W, Carbon
GR12	Common	200 ohm, 5%, ½W, Carbon
GR13	Common	3K ohm, 5%, ½W, Carbon
GR14	Common	2.7K ohm, 5%, ½W, Carbon
GR15	EP14X183	3.3K ohm, 5%, ½W, Carbon
GR16	Common	3.9K ohm, 5%, ½W, Carbon
GR18	Common	200K ohm, 5%, ½W, Carbon
GR19	Common	8.2K ohm, 5%, ½W, Carbon
GR20	Common	91K ohm, 5%, ½W, Carbon
GR21	Common	27 ohm, 5%, ½W, Carbon
GR24	Common	13K ohm, 5%, ½W, Carbon
GR25	Common	3.9K ohm, 5%, ½W, Carbon

DIODES

GY01	EP16X28	Photo-Pin
GY24	EP57X4	Rectifier
GY25	EP57X4	Rectifier

TRANSISTORS

GQ05	ES15X92	FET
GQ10	EP15X89	NPN, Amplifier
GQ15	EP15X48	PNP, Amplifier
GQ20	ES15X128	PNP, Amplifier
GQ25	ES15X128	PNP, Amplifier

MISCELLANEOUS

RL246	EP8X94	Connector—4 pos.

READOUT INTERFACE BOARD (M-K)

EP93X226

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
KC31	EP18X197	1000pf, 10%, 50V, Cer. Disc
KC32	EP18X197	1000pf, 10%, 50V, Cer. Disc
KC33	EP18X197	1000pf, 10%, 50V, Cer. Disc
KC34	EP18X197	1000pf, 10%, 50V, Cer. Disc
KC41	EP18X197	1000pf, 10%, 50V, Cer. Disc
KC42	EP18X197	1000pf, 10%, 50V, Cer. Disc
KC51	EP31X35	10uf, 16V, Electrolytic
KC52	EP25X87	.047uf, 20%, 50V, Polyester

RESISTORS

KR11	ES14X58	470 ohm, 5%, ½W, Carbon
KR12	ES14X58	470 ohm, 5%, ½W, Carbon
KR13	ES14X58	470 ohm, 5%, ½W, Carbon
KR14	ES14X58	470 ohm, 5%, ½W, Carbon
KR15	ES14X58	470 ohm, 5%, ½W, Carbon
KR16	ES14X58	470 ohm, 5%, ½W, Carbon
KR17	ES14X58	470 ohm, 5%, ½W, Carbon
KR21	ES14X58	470 ohm, 5%, ½W, Carbon
KR22	ES14X58	470 ohm, 5%, ½W, Carbon
KR23	ES14X58	470 ohm, 5%, ½W, Carbon
KR24	ES14X58	470 ohm, 5%, ½W, Carbon
KR25	ES14X58	470 ohm, 5%, ½W, Carbon
KR26	ES14X58	470 ohm, 5%, ½W, Carbon
KR27	ES14X58	470 ohm, 5%, ½W, Carbon
KR31	EP14X243	2.2K ohm, 5%, ½W, Carbon
KR32	EP14X243	2.2K ohm, 5%, ½W, Carbon
KR33	EP14X243	2.2K ohm, 5%, ½W, Carbon
KR34	EP14X243	2.2K ohm, 5%, ½W, Carbon
KR41	EP14X243	2.2K ohm, 5%, ½W, Carbon
KR42	EP14X243	2.2K ohm, 5%, ½W, Carbon
KR51	ES14X79	1 ohm, 5%, ½W, Carbon

INTEGRATED CIRCUITS

KIC10	EP84X110	7 - Seg. Driver
KIC20	EP84X110	7 - Seg. Driver

MISCELLANEOUS

RL242	EP8X91	Connector - 9 pos.
	EP34X52	Socket - IC

LMP AUDIO INTERFACE

EP93X383

CAPACITORS

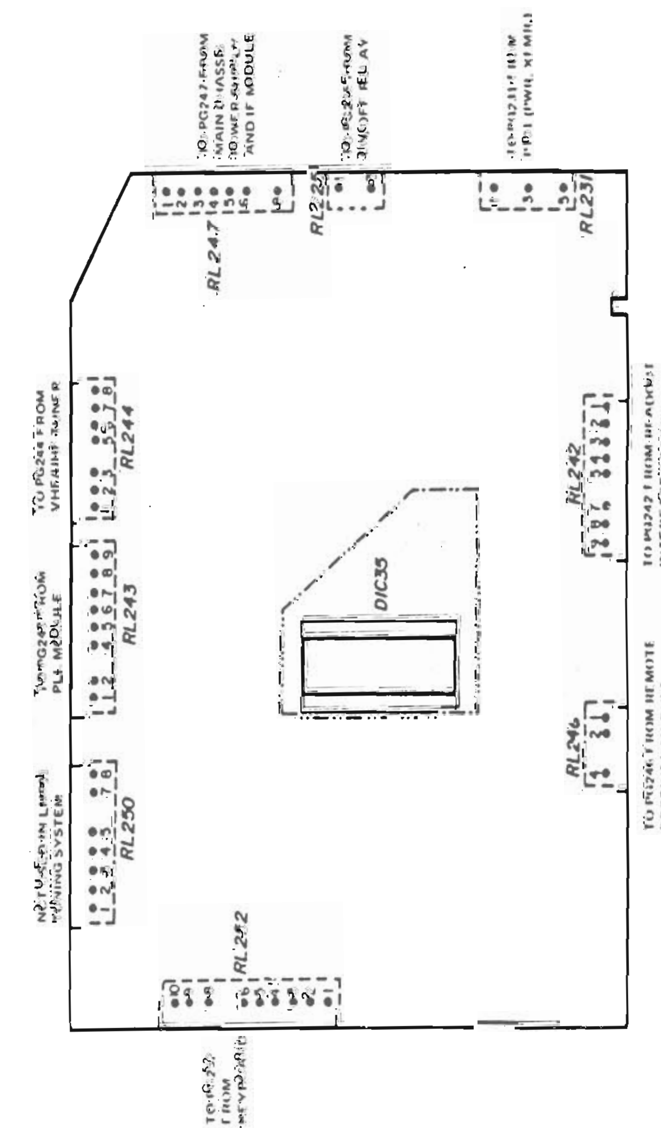
REF. NO.	PART. NO.	DESCRIPTION
C1102	EP31X159	470uf, 20%, 16V, Elect.

RESISTORS

R1101	ES14X57	390 ohm, 5%, ½W, Carbon
R1103	ES14X57	390 ohm, 5%, ½W, Carbon
R1105	Common	1.6K ohm, 5%, ½W, Carbon
R1107	ES14X60	680 ohm, 5% ½W, Carbon
R1109	ES14X71	1K ohm, 5%, ½W, Carbon

TRANSISTOR

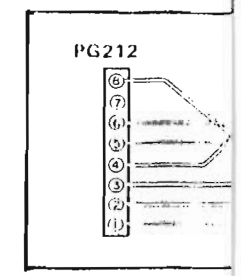
Q1100	ES15X90	PNP, Silicon



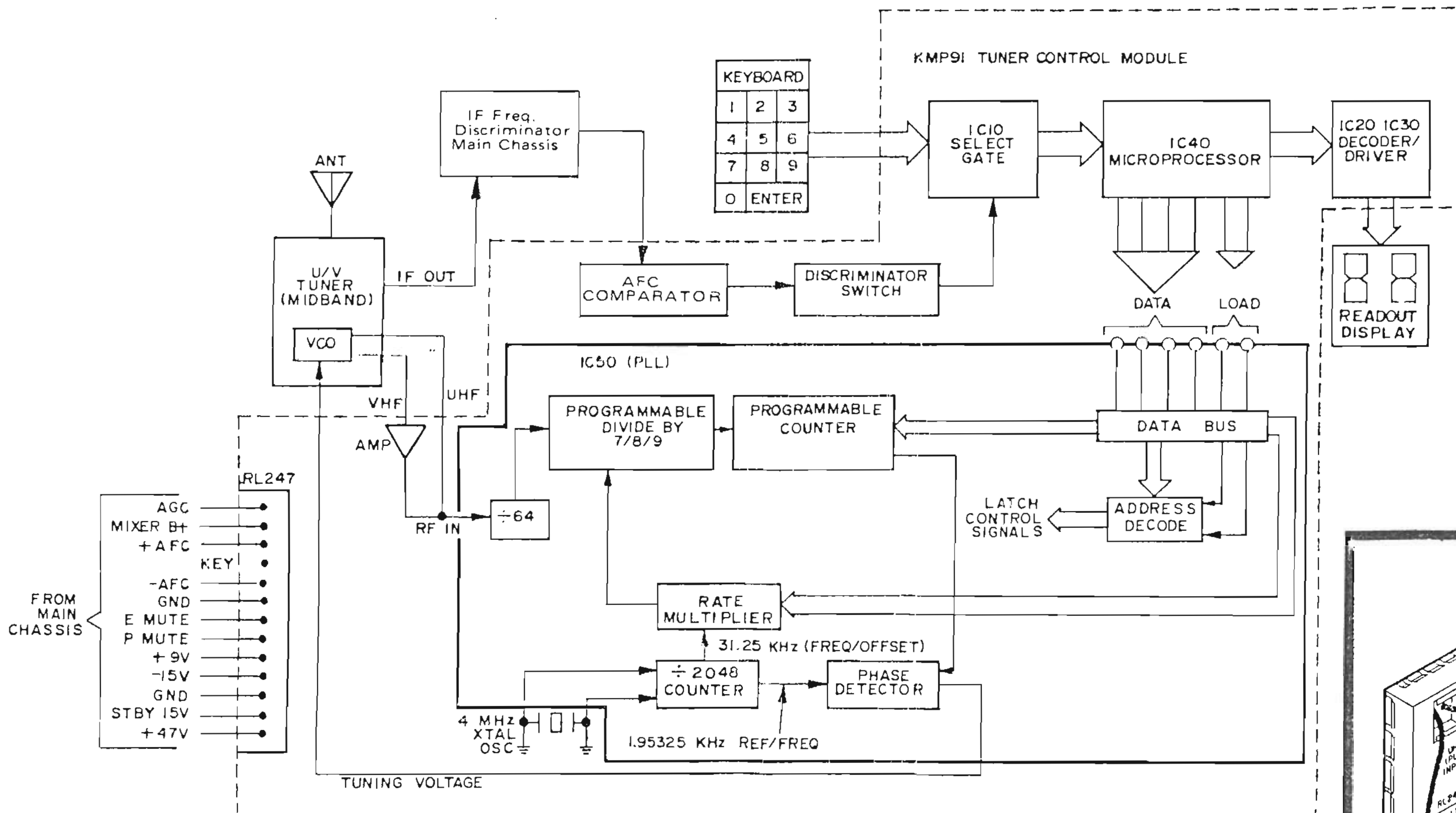
LMP91 TUNER CONTROL MODULE (EP93X279) PLUG LOCATIONS

KMP91 ELECTRONIC TUNING SYSTEM

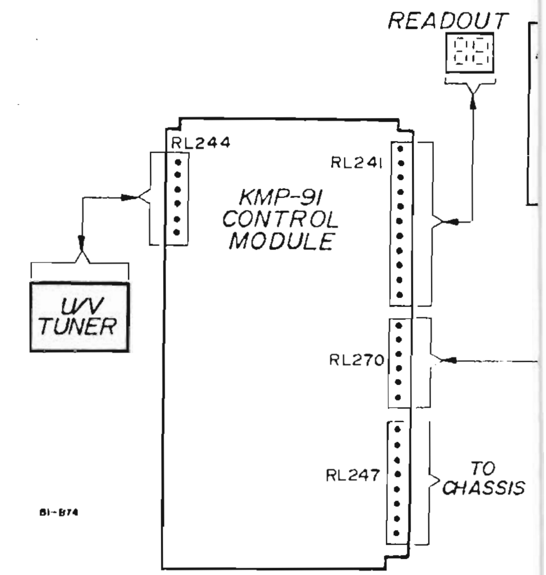
PC CHASSIS

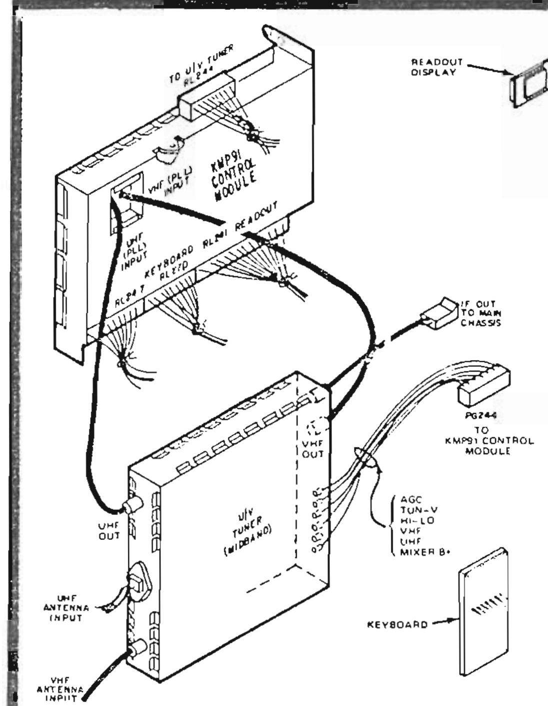


KEYBOARD TO CONTR



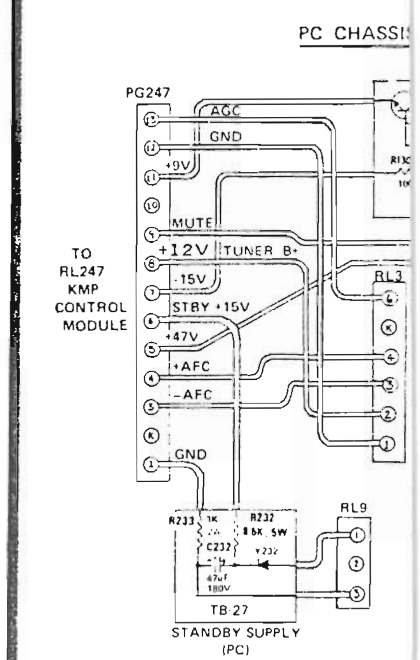
KMP91 TUNING SYSTEM BLOCK DIAGRAM





KMP91 TUNING

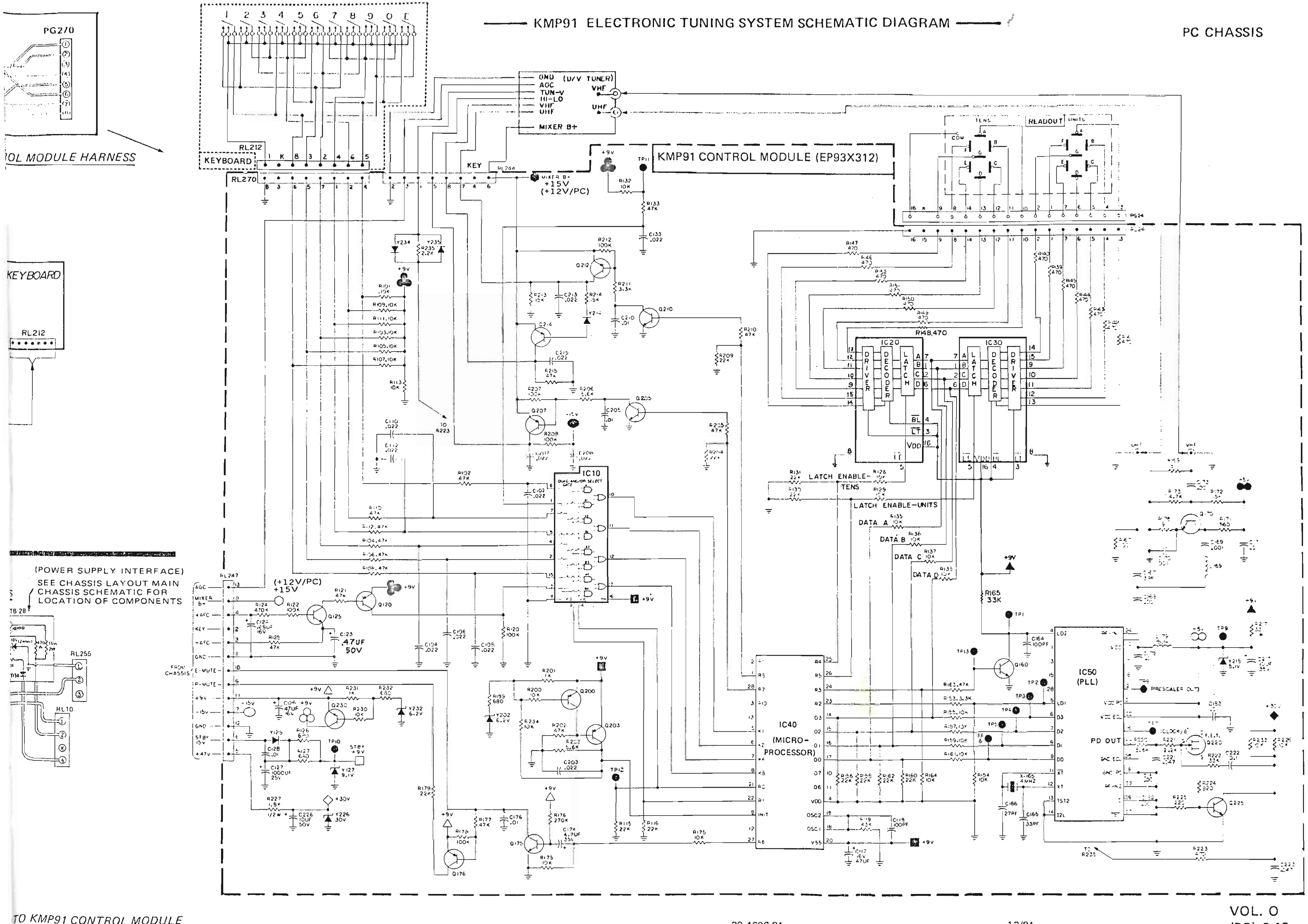
SYSTEM COMPONENT ASSEMBLIES



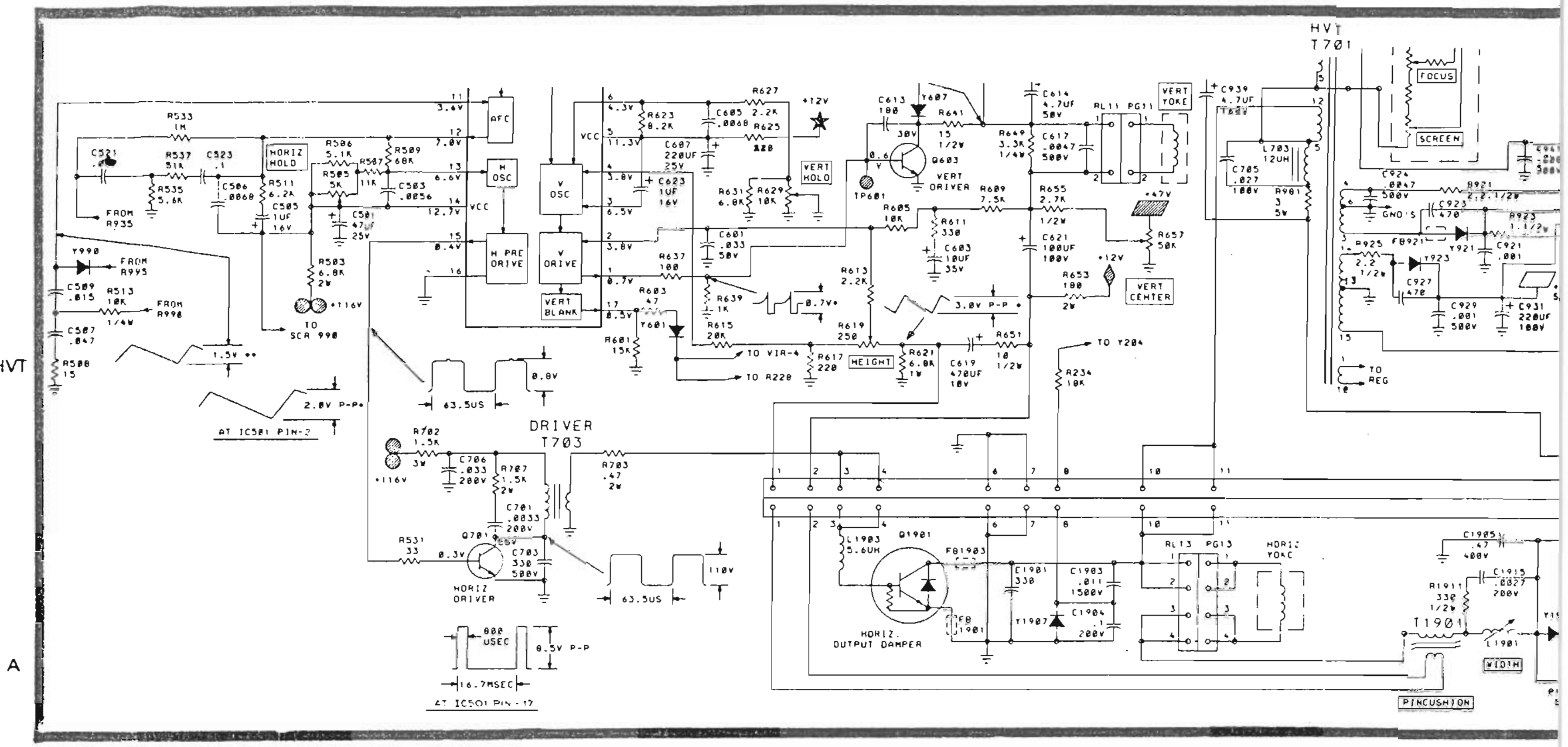
INTERFACE CONNECTIONS

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.

USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.


KMP91 ELECTRONIC TUNING SYSTEM SCHEMATIC DIAGRAM
PC CHASSIS
PG270
OL MODULE HARNESS
KEYBOARD
RL212
RL270
KEY
MIXER B+
KMP91 CONTROL MODULE (EP93X312)
+15V
(+12V/PC)
READOUT
IC20
IC30
IC10
IC40
(MICRO-
PROCESSOR)
IC50
(PLL)
LATCH ENABLE-TENS
LATCH ENABLE-UNITS
DATA A
DATA B
DATA C
DATA D
PD OUT
(POWER SUPPLY INTERFACE)
SEE CHASSIS LAYOUT MAIN
CHASSIS SCHEMATIC FOR
LOCATION OF COMPONENTS
RL247
RL255
RL10
FROM CHASSIS
TO KMP91 CONTROL MODULE

RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR COMPONENT LOCATION (SEE PC CHASSIS LAYOUT - THIS PAGE)



R S
CHECK THE CIRCUITRY OF IC901 AND Y921. CHECK THE HVT WINDING BETWEEN PINS 3 AND 6.

L
CHECK SCR903 AND ITS ASSOCIATED CIRCUITRY FOR A SHORTED CONDITION.

L
USE A VARIABLE ISOLATION TRANSFORMER TO REDUCE THE LINE VOLTAGE UNTIL C904 TO GROUND READS APPROX. +80VDC AND STOPS PULSATING.

ADJUST R953 TO SET THE VOLTAGE TO
VOLTAGE CANNOT BE ADJUSTED PROPE
THE CIRCUIT AND CHECK Q901, Q90
ASSOCIATED COMPONENTS. B F

C
MEASURE THE VOLTAGE ON PIN 14 OF IC501. IS THE VOLTAGE:
0 +7V TO +10VDC

M REMOVE POWER FROM THE RECEIVER. RE
REPLACE C1903 AND C1904. IF NO SUCCES
DEFECTIVE HIGH VOLTAGE TRANSFORMER.

G
IS R503 OVERHEATING?
YES NO

G H
CHECK THE HORIZONTAL OUTPUT CIRCUITRY. Q701 AND Q1901 ARE THE MOST LIKELY COMPONENTS TO BE AT FAULT.

C
IF NO SUCCESS MEASURE THE DC VOLTAGES
13, 14, 15, AND 16 OF IC501. IF THE VOLTAGES
TRY TO DETERMINE THE CAUSE. IF NO SU
IC501.

DOES THE SET OPERATE NORMALLY?
NO YES

R
REMOVE POWER FROM THE RECEIVER. UNSOLDER ONE END OF Y991.* RESTORE POWER. DOES THE SET COME BACK ON?
YES NO

G
CHECK R503 FOR AN OPEN CONDITION.

TROUBLESHOOT FOR THE NEW SYMPTOM INDICATED BY THE SET.

SET LINE VOLTAGE TO 120VAC. MEASURE HIGH VOLTAGE. IS IT TOO HIGH? IS IT MORE THAN 26.8KV?
YES NO

*NOTE: Y991 MUST BE RESTORED TO THE CIRCUIT BEFORE COMPLETING THE REPAIR.

C R
REMOVE POWER AND RESTORE Y991 TO THE CIRCUIT. EITHER IC501 OR A COMPONENT CONNECTED TO PIN 14 OF IC 501 IS SHORTED.

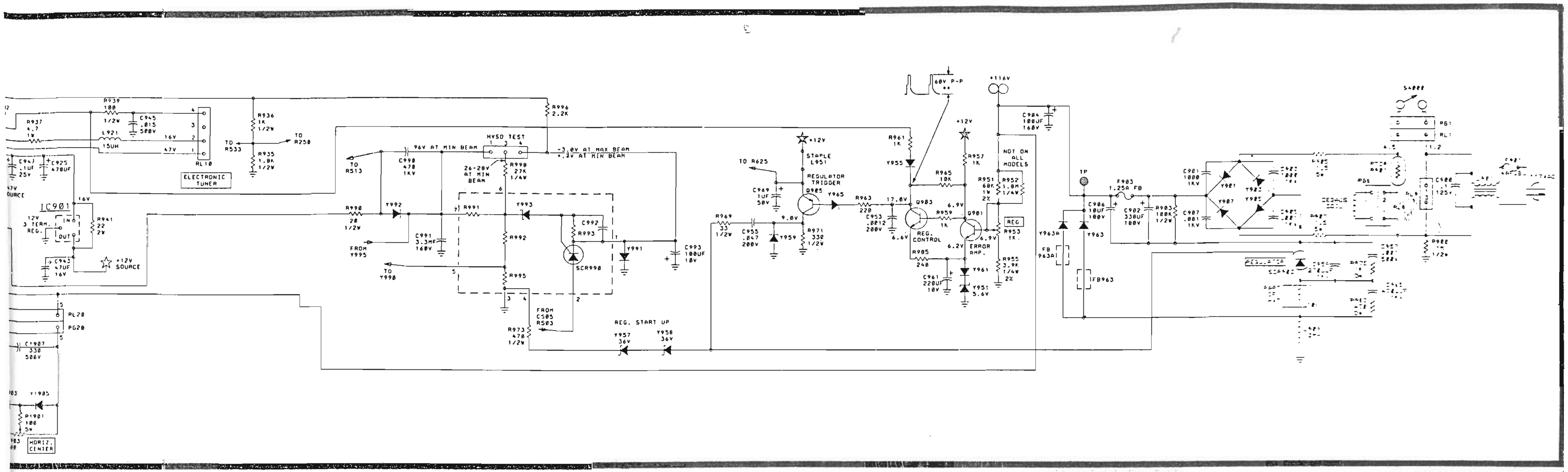
CAREFULLY OBSERVE THE SET FOR NORMAL OPERATION BEFORE COMPLETING THE REPAIR.

L
MEASURE THE VOLTAGE FROM C904 TO GROUND. IS THE VOLTAGE +116VDC ±.5V?
NO YES

R
REMOVE POWER FROM THE RECEIVER. RESTORE Y991. REPLACE THE HIGH VOLTAGE SHUTDOWN MODULE.

USE THE +116 VOLT B+ DISTRIBUTION DIAGRAM ON PAGE 12 TO FIND THE SHORT. PRIMARY SUSPECT IS Q1901, HORIZONTAL OUTPUT TRANSISTOR.

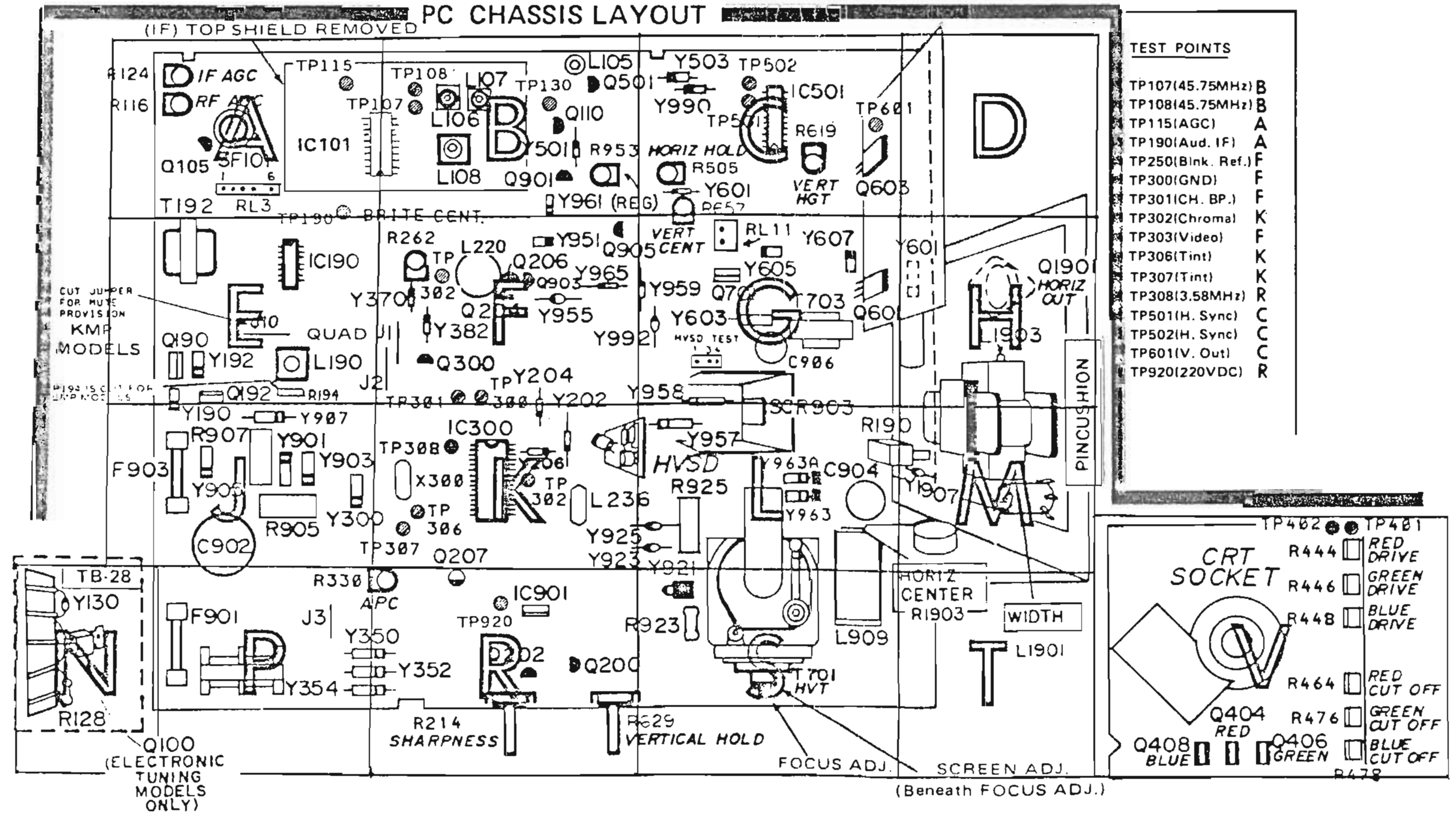
+116VDC ±1V. IF THE
RLY RESTORE Y991 TO
2, Q903 AND THEIR



ESTORE Y991, R
S SUSPECT A

ON PINS 11, 12,
ARE INCORRECT
CCESS REPLACE

PC CHASSIS LAYOUT



19PC "RADIO/CLOCK/TIMER" CHASSIS

RADIO/CLOCK/TIMER MODULE

Volume Limiting Set Up Procedure:

This control is in series with the volume controls on the front of the receiver (both TV and radio) and can be set to limit maximum volume. To limit TV volume, tune the receiver to a strong local station, turn the volume control to maximum and then set the outer volume limit control for maximum desired sound output. To limit the radio volume, tune the radio to a strong local station, turn the volume control to maximum desired volume level.

General Test Procedures:

1. Clock:

- Apply 120 volts AC to system.
- Display should come on with 12:00 AM flashing.
- Hold time set button and use Fast and Slow button to set required time, display should stop flashing once Time Set and Fast or Slow buttons are pushed.
- As time display is cycled, the AM/PM indicator lights should alternate on and off every 12 hours.

2. Power Switch:

- Push in Power Switch. Either the TV or radio should turn on depending on position of Radio/TV Switch.

3. Radio/TV Mode Switch:

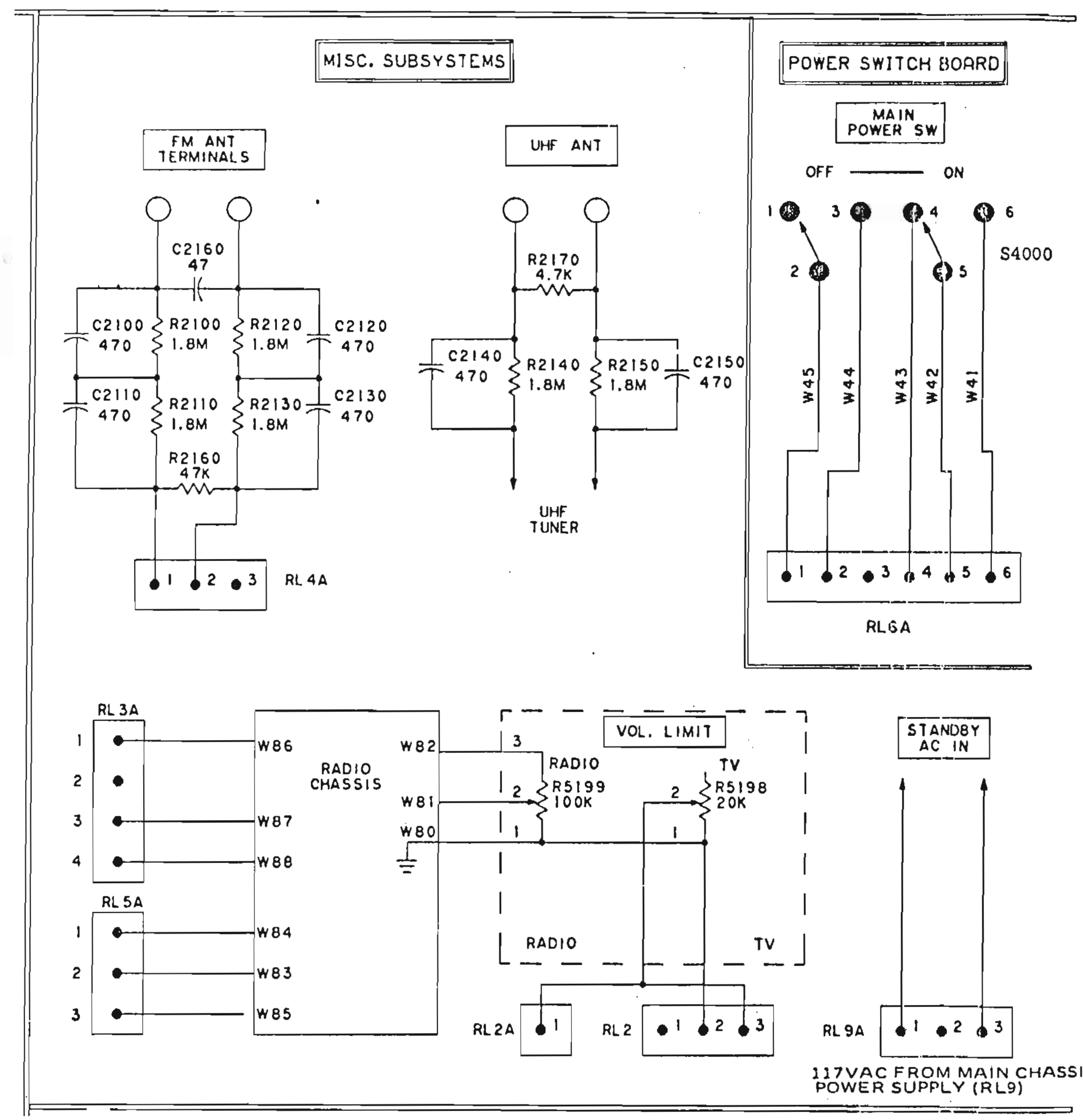
- Power switch must be on.
- Push in Radio/TV switch, red LED indicator light next to the switch should come on and TV should not be operating.
- Push Radio/TV switch so it returns to the out position, the TV channel display should light up and the TV chassis should be operating.

4. Alarm Switch:

- **Power Switch** and **Radio Switch** must be depressed.
- Tune radio to a active AM or FM station.
- Hold **Alarm Set** button in and use **Fast** and **Slow** buttons to set alarm time (alarm time should be set at least 5 minutes ahead of current time on display).
- Set radio station (AM or FM) to required volume level.
- Turn power switch off, use Time **SET** and **Fast** or **Slow** button to advance time to alarm operating time, radio should come on (Red indicator light will not be on). Use **Time Set** and **Slow** button to advance time 9 minutes past alarm set time, an alarm tone should come on over top of the radio sound.
- Push **Radio/TV** switch to the TV (out) position, radio and alarm should remain on.
- Use **Time Set** and **Fast** and **Slow** buttons to advance time 60 minutes past alarm set time, alarm should turn off.
- As long as the alarm set time is not changed, the alarm system will operate every 24 hours if the Alarm Switch is depressed.
- Note: If the **Alarm Switch** is in, and the alarm set time occurs during normal operation of the radio,the alarm tone will be heard over top of the radio sound 9 minutes after the alarm set time. To cancel this tone, turn the **Alarm Switch** off (as indicated by the alarm light turning off).

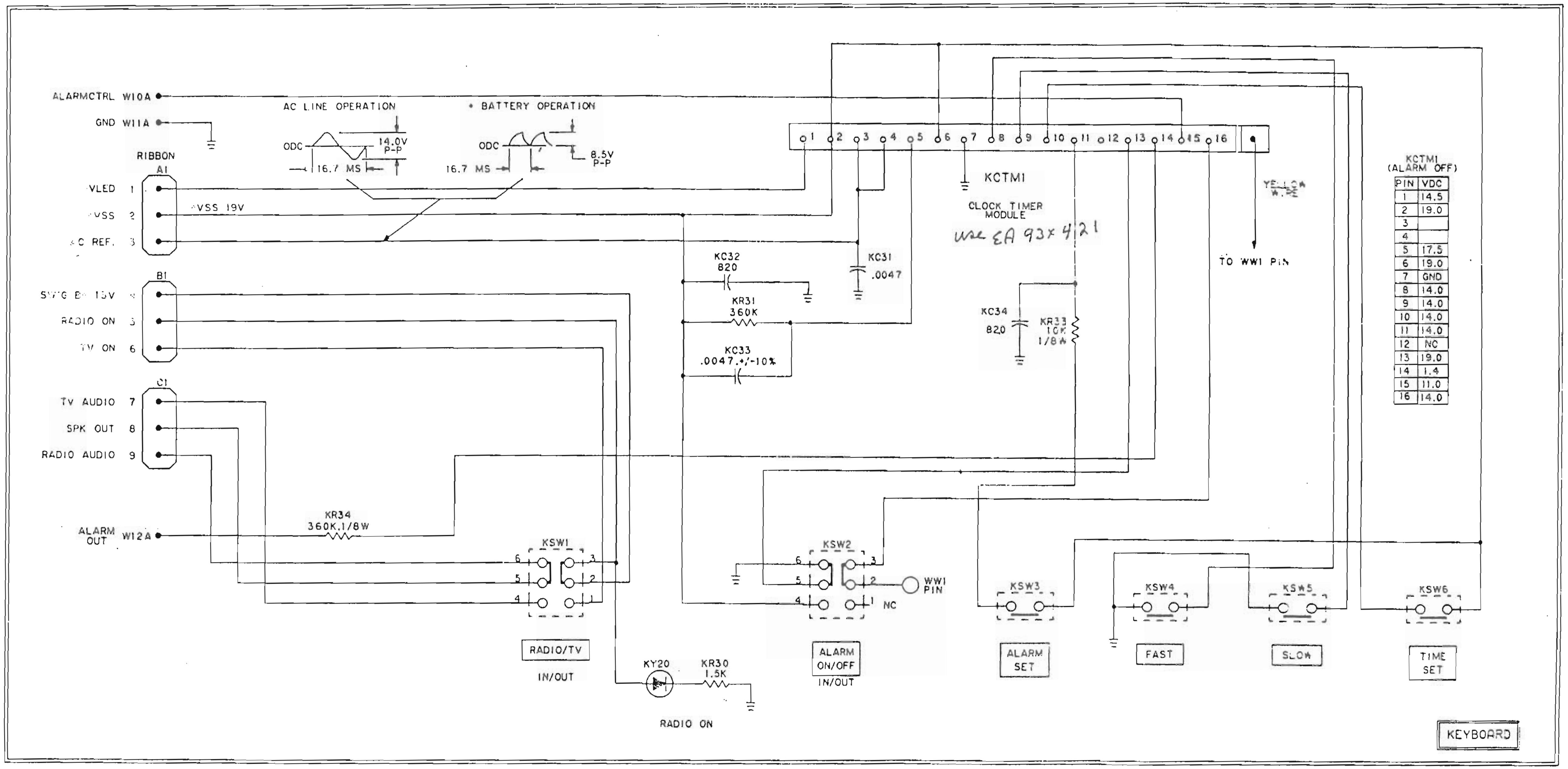
5. Battery Back-Up

- AC power must have been applied to system for at least 24 hours, (48 hours is preferred) or equivalent charge applied to battery.
- Activate alarm system and set alarm time to occur during test period. Record current clock time and alarm time then remove AC power source. Green LED display will extinguish.
- At the end of three hours, reapply power to system, time displayed should be within specifications and alarm time should be the same as previously set.



PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PART[S] AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED T[HAT] PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATI[C] USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATI[ON] FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

– CLOCK/TIMER MODULE KEYBOARD DIAGRAM AND INTERFACE CONNECTIONS TO RADIO CHASSIS POWER SUPPLY –

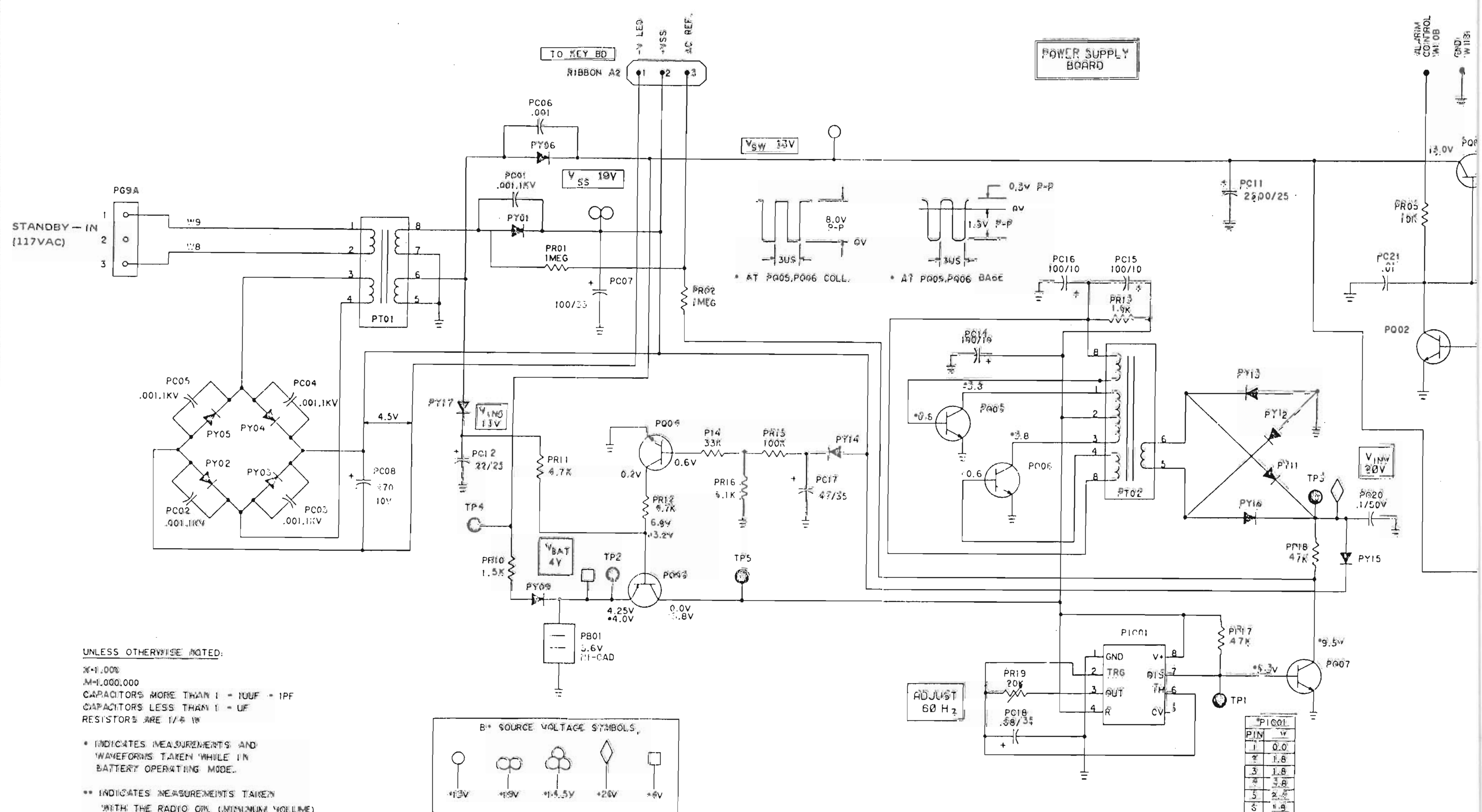


KCTM1 (ALARM OFF)

PIN	VDC
1	14.5
2	19.0
3	
4	
5	17.5
6	19.0
7	GND
8	14.0
9	14.0
10	14.0
11	14.0
12	NC
13	19.0
14	1.4
15	11.0
16	14.0

LIST AND THE SHADED
HAT EXACT CATALOGED
DIAGRAM.
ON MAY CREATE SHOCK.

— CLOCK/RADIO/TIMER POWER SUPPLY SCHEMATIC DIAGRAM AND INTERFACE CONNECTIONS —



UNLESS OTHERWISE NOTED:

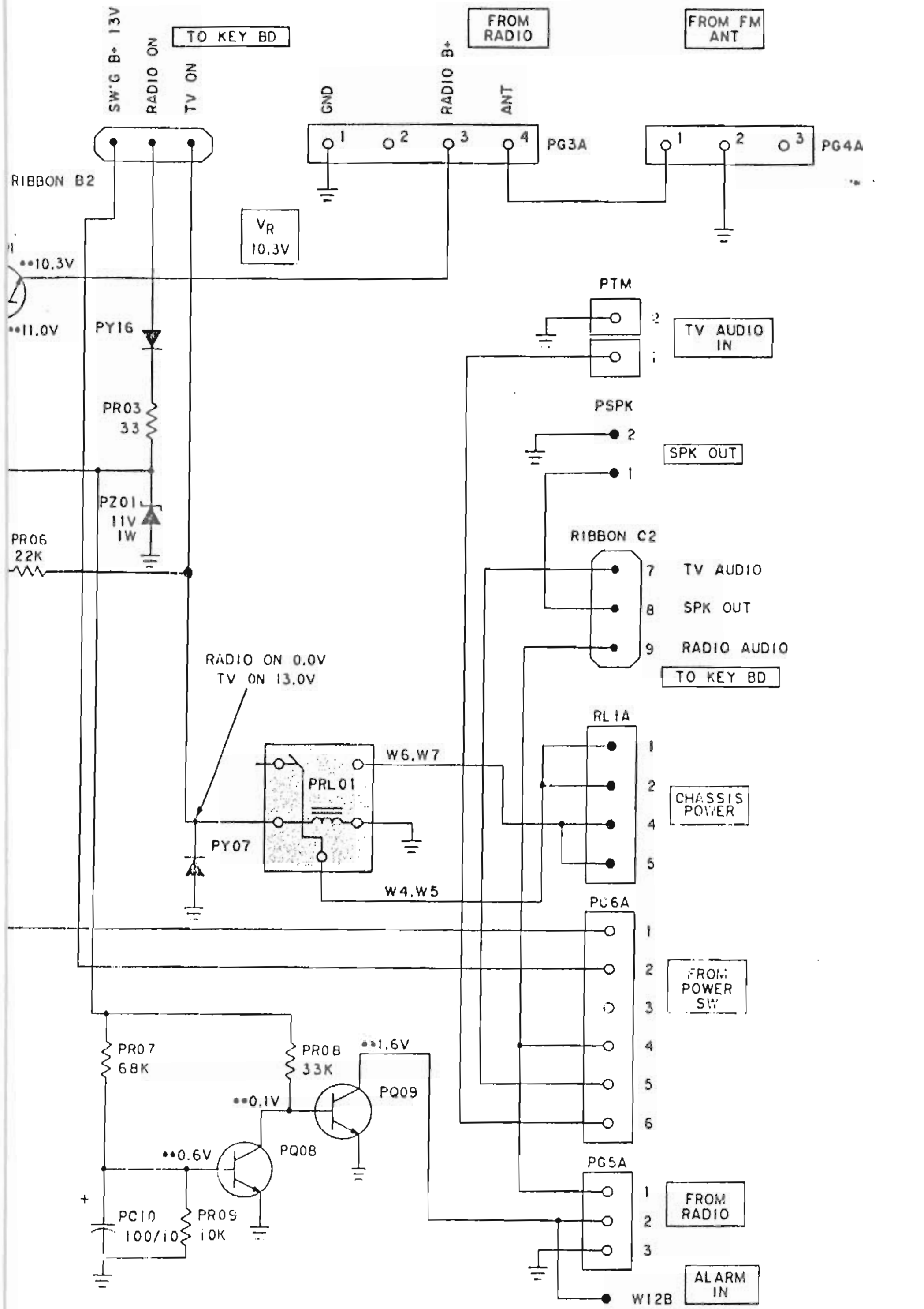
K=1,000
M=1,000,000
CAPACITORS MORE THAN 1 = UUF = PF
CAPACITORS LESS THAN 1 = UF
RESISTORS ARE 1/4 W

* INDICATES MEASUREMENTS AND WAVEFORMS TAKEN WHILE IN BATTERY OPERATING MODE.

** INDICATES MEASUREMENTS TAKEN WITH THE RADIO ON. (MINIMUM VOLUME)

*PIC01	
PIN	V
1	0.0
2	1.8
3	1.8
4	3.8
5	2.4
6	1.9
7	0.3
8	3.8

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.



AM/FM RADIO ALIGNMENT PROCEDURE

AM ALIGNMENT – AM ALIGNMENT SWITCH IN AM POSITION

AM GENERATOR – RF Radiated Signal Modulated 30% at 400Hz				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. 455 KHz	Low End	Output Meter	T3, T6	Adjust for maximum
2. 1630 KHz	High End		C1H	Adjust for maximum
3. 520 KHz	Low End	Across Speaker	L1	Adjust for maximum. Repeat Steps 2 & 3 for Band Ends.
4. 1400 KHz	Tune to Signal		C1G	Adjust for maximum
5. 580 KHz	Tune to Signal		L2	Slide tank coil along core to obtain maximum output. Repeat Steps 4 & 5 until no further improvement is noted. Wax or cement tank coil to core.

FM ALIGNMENT – BAND SWITCH IN FM POSITION/VOLUME CONTROL AT MINIMUM

High Side of FM Sweep Generator thru a 5pf capacitor in series with 68Ω resistor to TP1. Use only enough Marker Signal for Indication				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. 10.7 MHz	High End	Scope at TP2 Thru Detector Pad (Figure 1)	T1A, T1B	Adjust for maximum gain and symmetry. Repeat as necessary.
2. 10.7 MHz	High End	Scope at TP3 Thru 100K Resistor	T5	Adjust for symmetrical S-Curve. Using strong input signal (Fig.2)
3. 10.7 MHz	High End	Scope at TP3 Thru 100K Resistor	T5	Reduce input signal until S-Curve shrinks to .2V. Re-adjust for best symmetry (Fig.3)
FM GENERATOR – Modulated RF Radiated Signal				
4. 109.0 MHz	High End	Output Meter	C1F	Adjust for maximum
5. 87.5 MHz	Low End	Across Speaker	L5	Spread or compress coil windings slightly to raise or lower frequency. Repeat Steps 4 & 5.
6. 108.0 MHz	Tune To Signal		C1E	Adjust for maximum
7. 88 MHz	Tune to Signal		L3	Spread or compress coil windings slightly to obtain optimum alignment. Repeat Steps 6 & 7.

NOTE: SCOPE USED MUST HAVE AT LEAST 50 MV/CM SENSITIVITY AND SWEEP GENERATOR AT LEAST 200MV OUTPUT

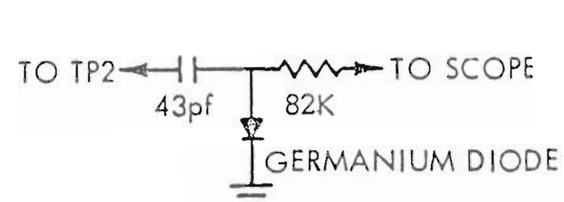


FIGURE 1

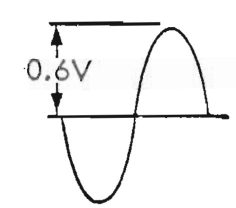


FIGURE 2

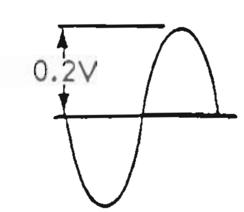
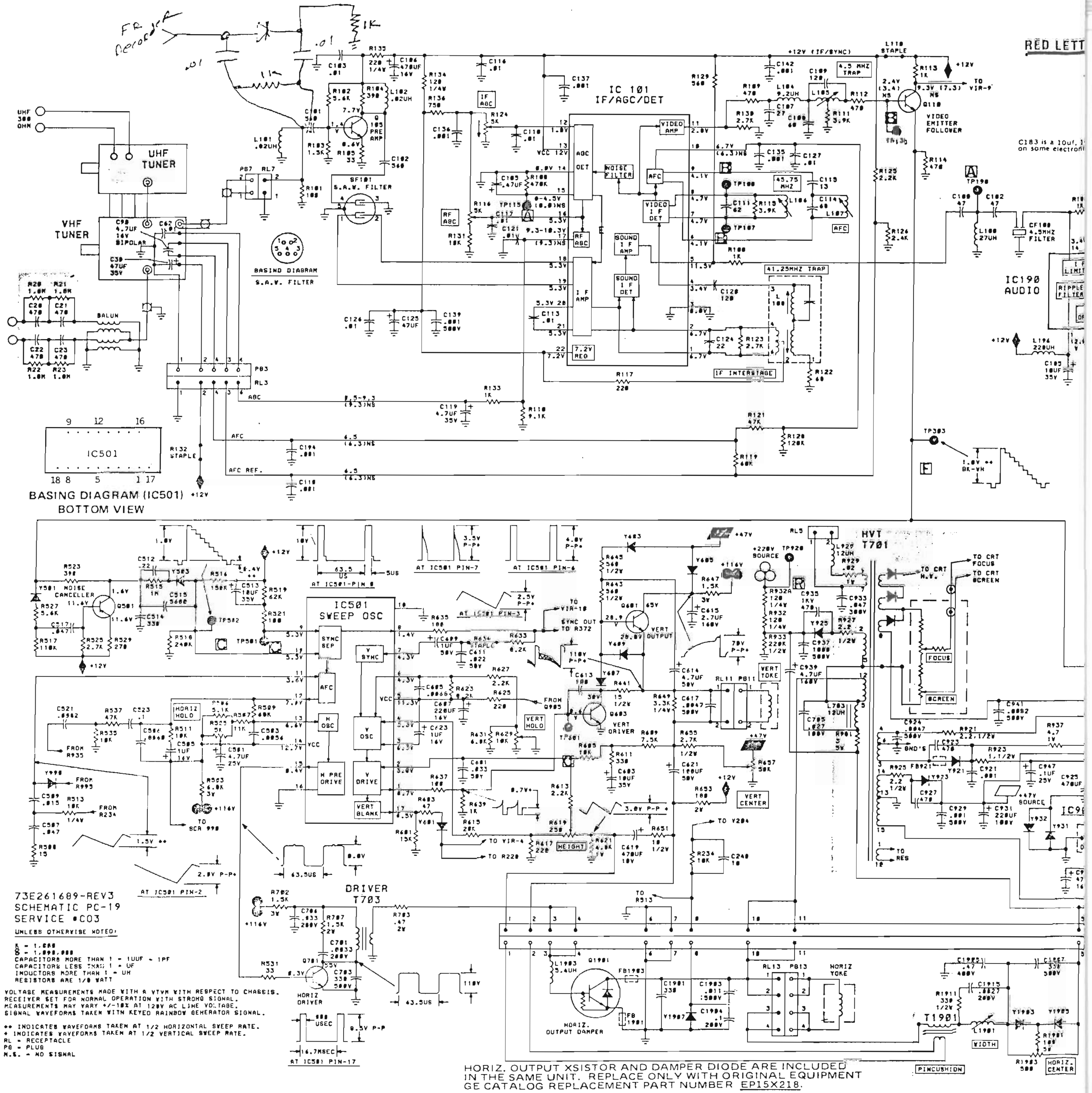


FIGURE 3

19PC—C CHASSIS

SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRONIC TUNING MODELS.



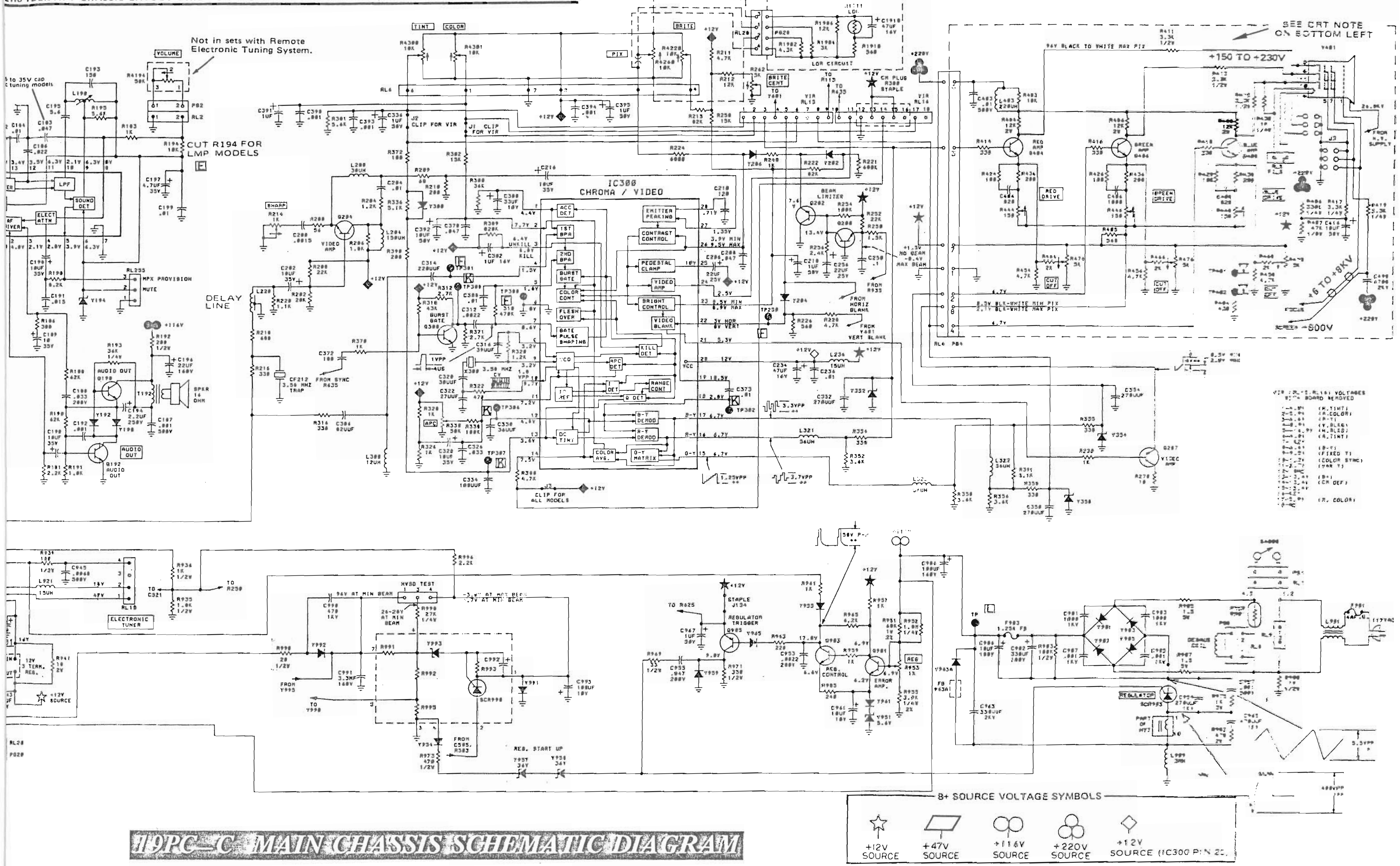
IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact catalog parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

– NOTE –

Replace CRT (V401) with the same type in the receiver or factory authorized substitute only. See Model Page in Service Manual or CRT Label for correct CRT replacement part number.

ERS IDENTIFY CHASSIS LAYOUT GRID FOR TEST POINT LOCATION (SEE PC CHASSIS LAYOUT ON PAGE 4-22).

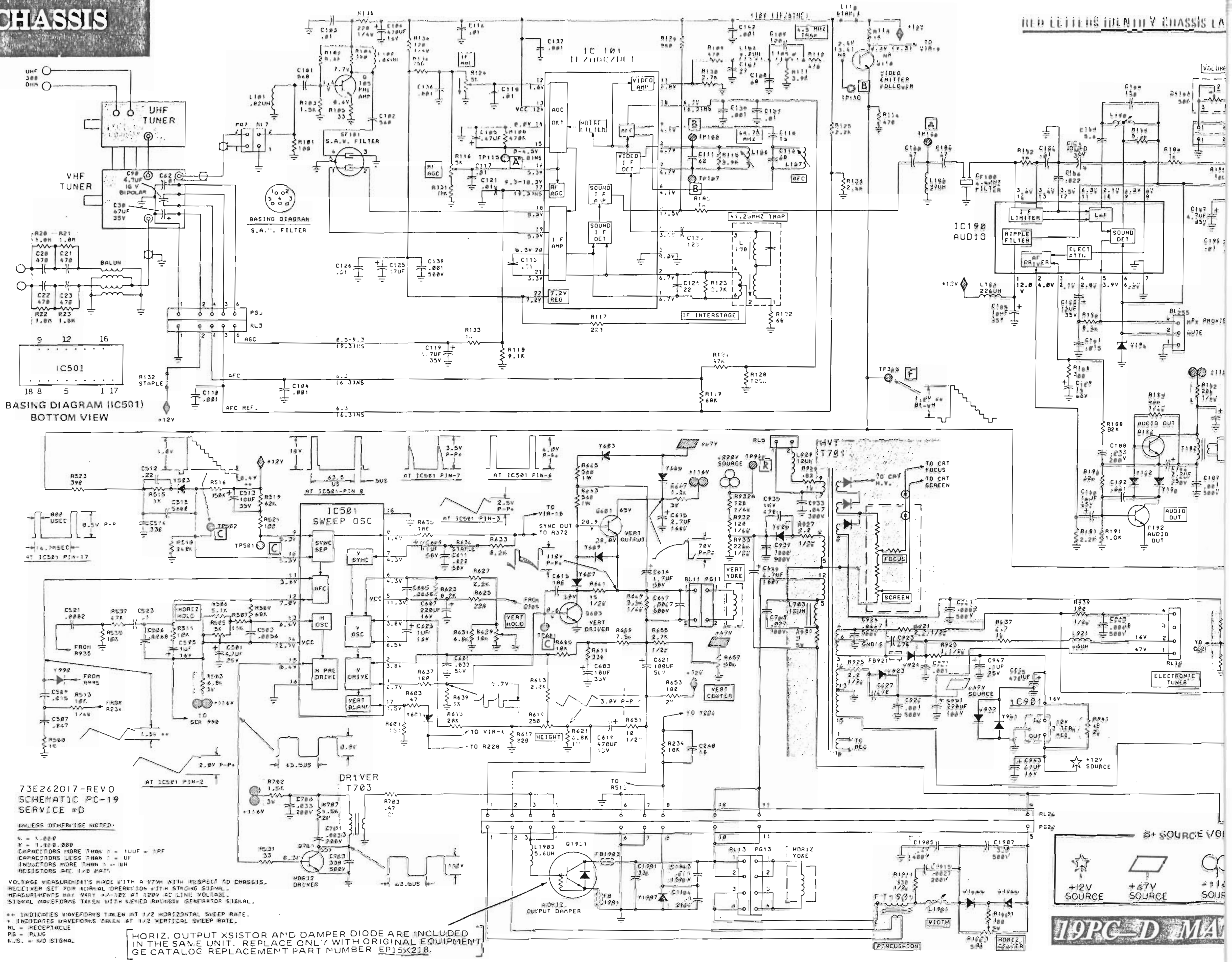


19PC-C MAIN CHASSIS SCHEMATIC DIAGRAM

6/84

19PC-D CHASSIS

SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRONIC TUNING MODELS.



73E262017-REVO
SCHEMATIC PC-19
SERVICE #D

UNLESS OTHERWISE NOTED:

K = 1,000
M = 1,000,000
CAPACITORS MORE THAN 1 = UUF = PF
CAPACITORS LESS THAN 1 = UF
INDUCTORS MORE THAN 1 = UH
RESISTORS ARE 1/8 WATT

VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS.
RECEIVER SET FOR NORMAL OPERATION WITH STRONG SIGNAL.
MEASUREMENTS MAY VARY +/-10% AT 120V AC LINE VOLTAGE.
SIGNAL WAVEFORMS TAKEN WITH KEYED RAINBOW GENERATOR SIGNAL.

** INDICATES WAVEFORMS TAKEN AT 1/2 HORIZONTAL SWEEP RATE.
* INDICATES WAVEFORMS TAKEN AT 1/2 VERTICAL SWEEP RATE.
RL = RECEPTACLE
PG = PLUG
N.S. = NO SIGNAL

HORIZ. OUTPUT XSISTOR AND DAMPER DIODE ARE INCLUDED IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT GE CATALOG REPLACEMENT PART NUMBER EP15X218.

IMPORTANT SAFETY NOTICE

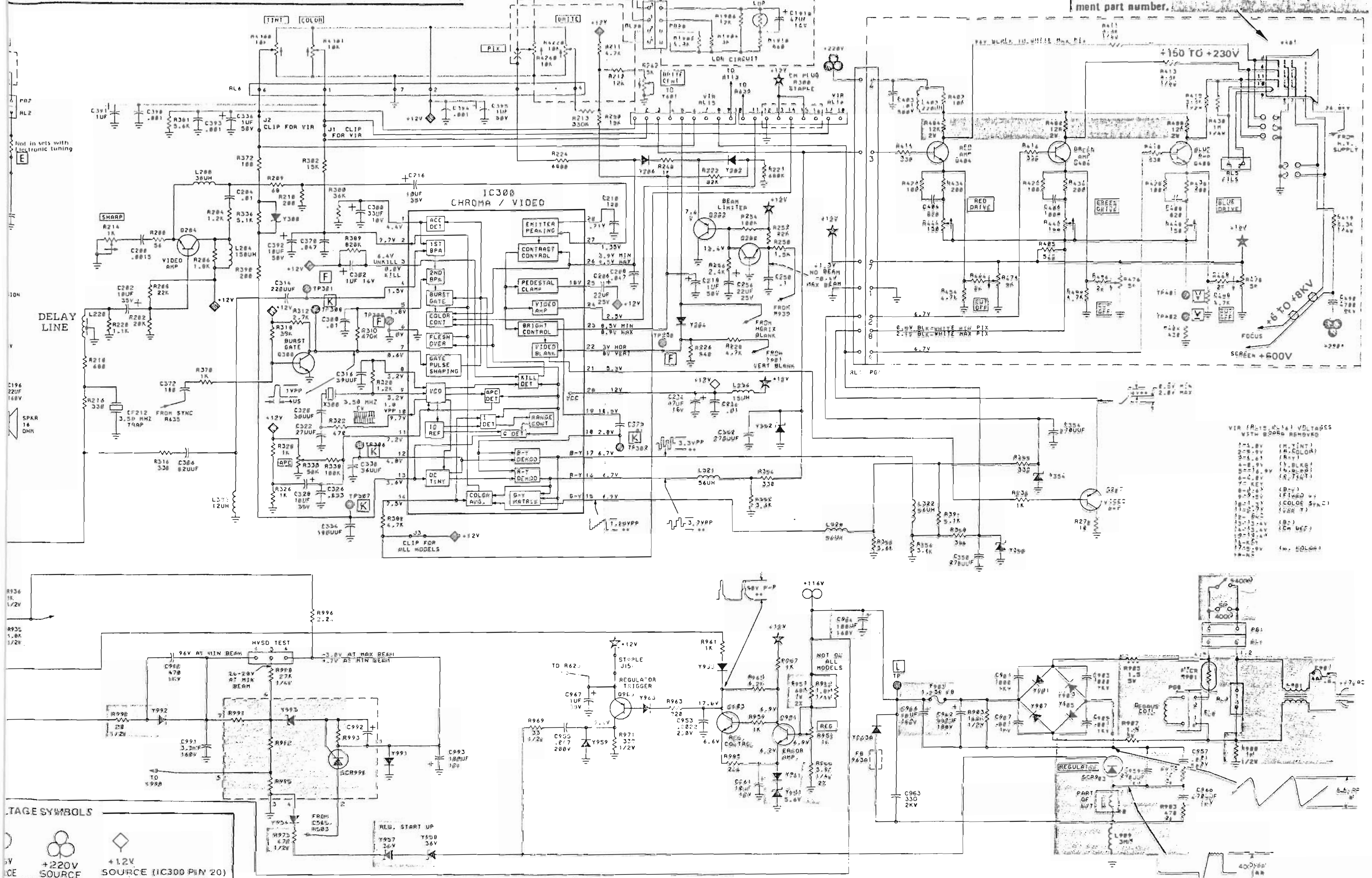
Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

RED LETTERS IDENTIFY CHASSIS LA

19PC-D MA

— NOTE —
Replace CRT (V401) with the same type in the receiver or factory authorized substitute only. See Model Page in Service Manual or CRT Label for correct CRT replacement part number.

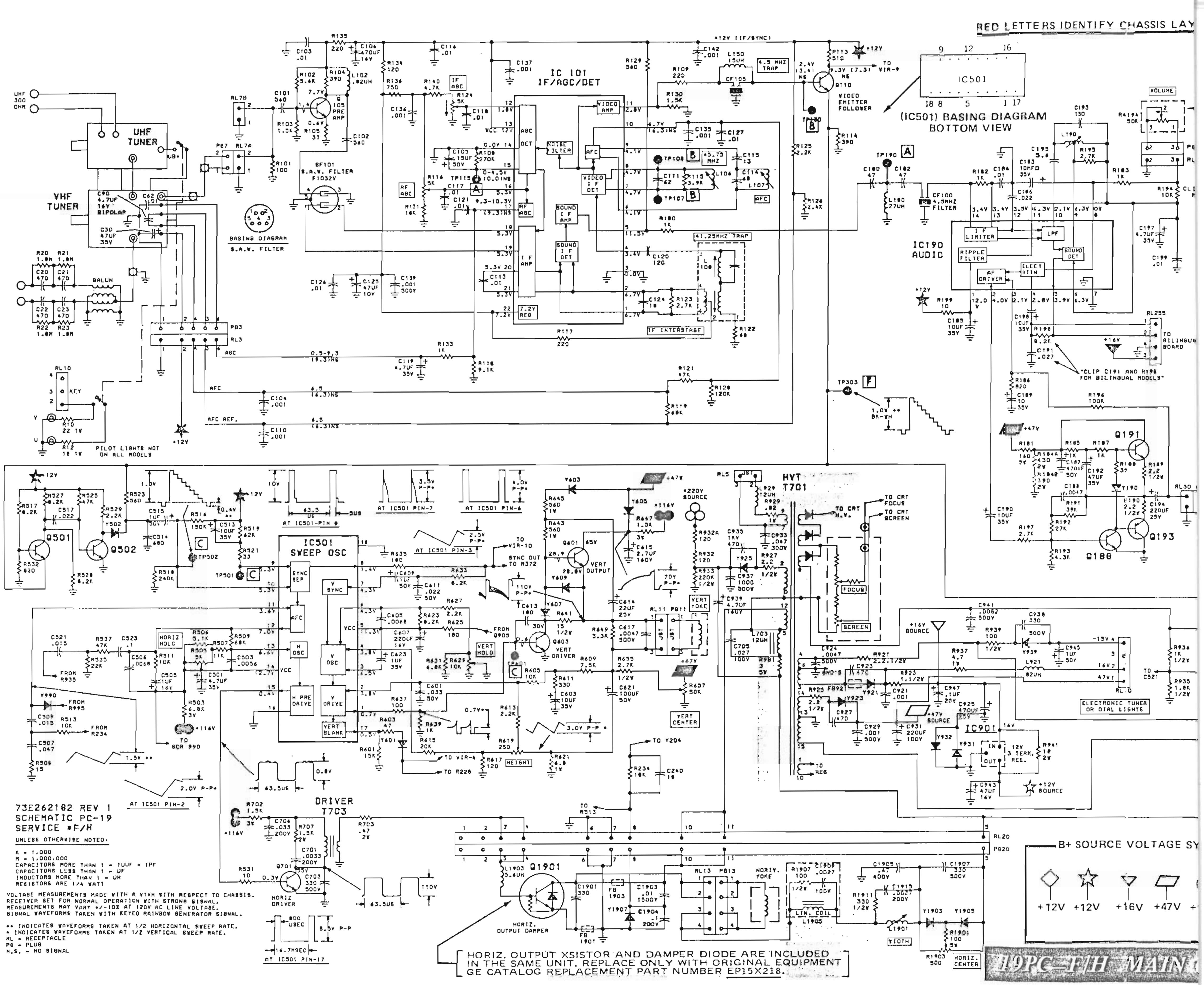
YOUT GRID FOR TEST POINT LOCATION (SEE PC CHASSIS LAYOUT ON PAGE 4-22).



N CHASSIS SCHEMATIC DIAGRAM

19PC—F/H CHASSIS

SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRONIC TUNING MODELS.

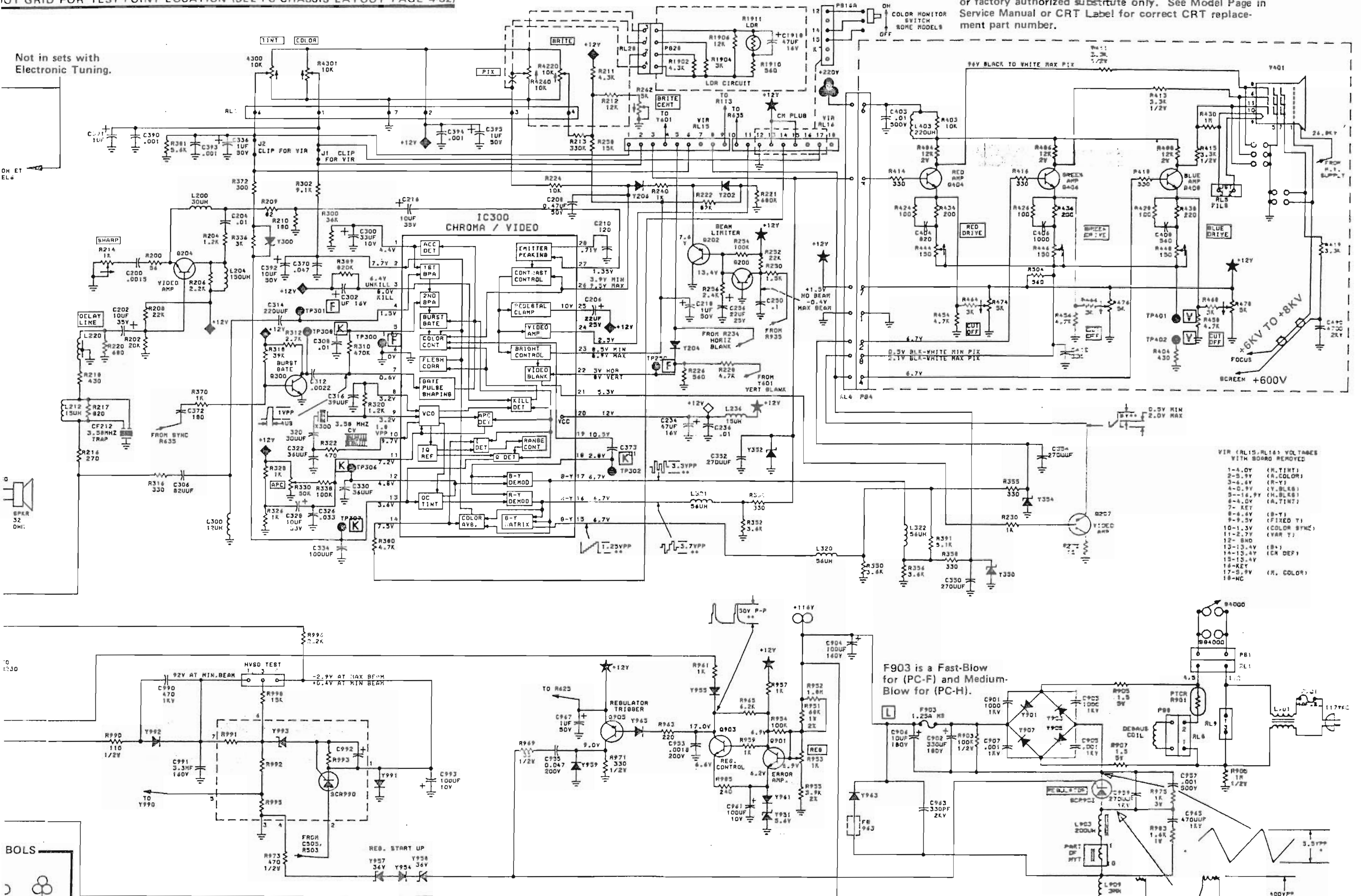


UT GRID FOR TEST POINT LOCATION (SEE PC CHASSIS LAYOUT PAGE 4-32)

PC CHASSIS

–NOTE–

Replace CRT (V401) with the same type in the receiver or factory authorized substitute only. See Model Page in Service Manual or CRT Label for correct CRT replacement part number.



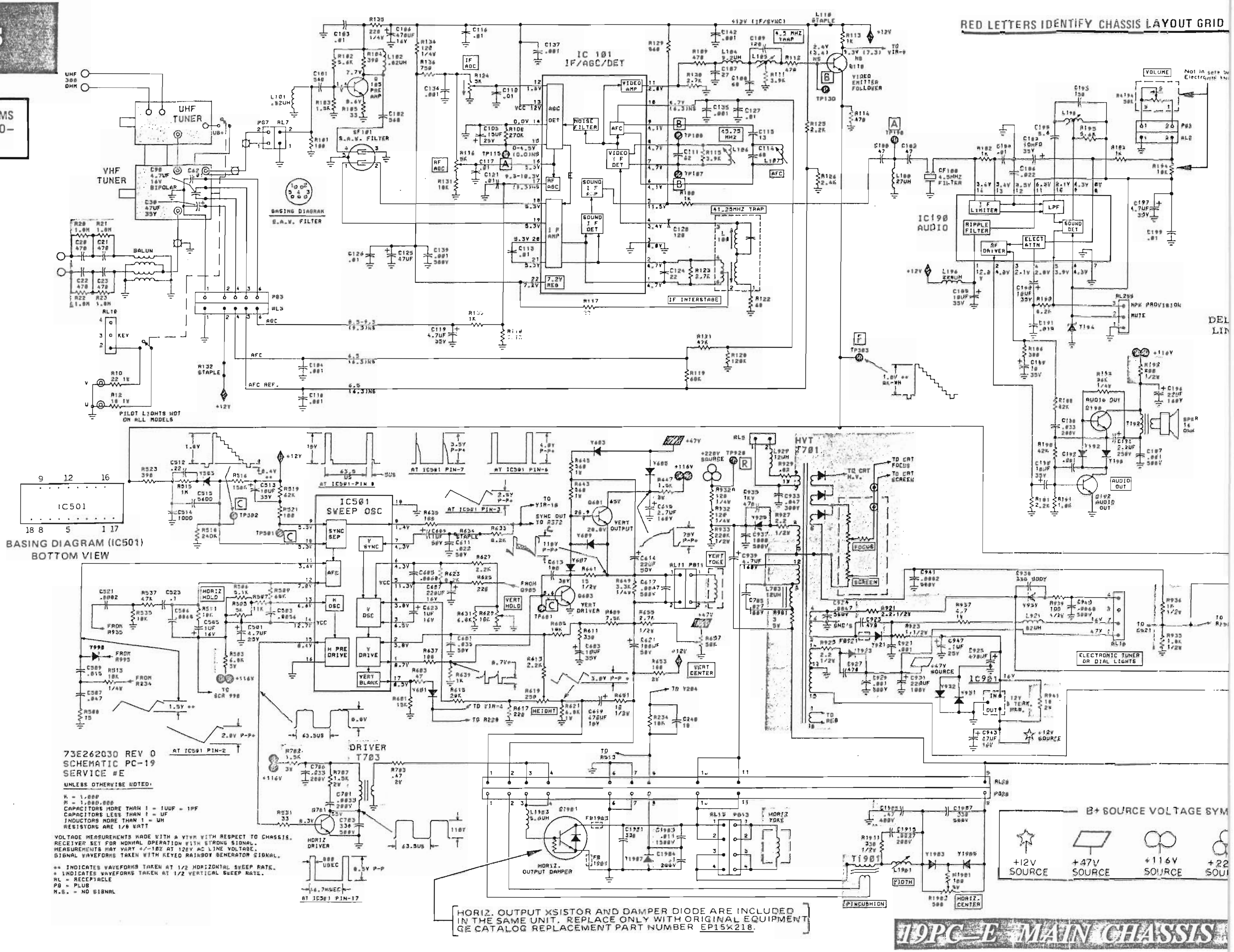
HASSIS SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE

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19PC—E CHASSIS

SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRONIC TUNING MODELS.



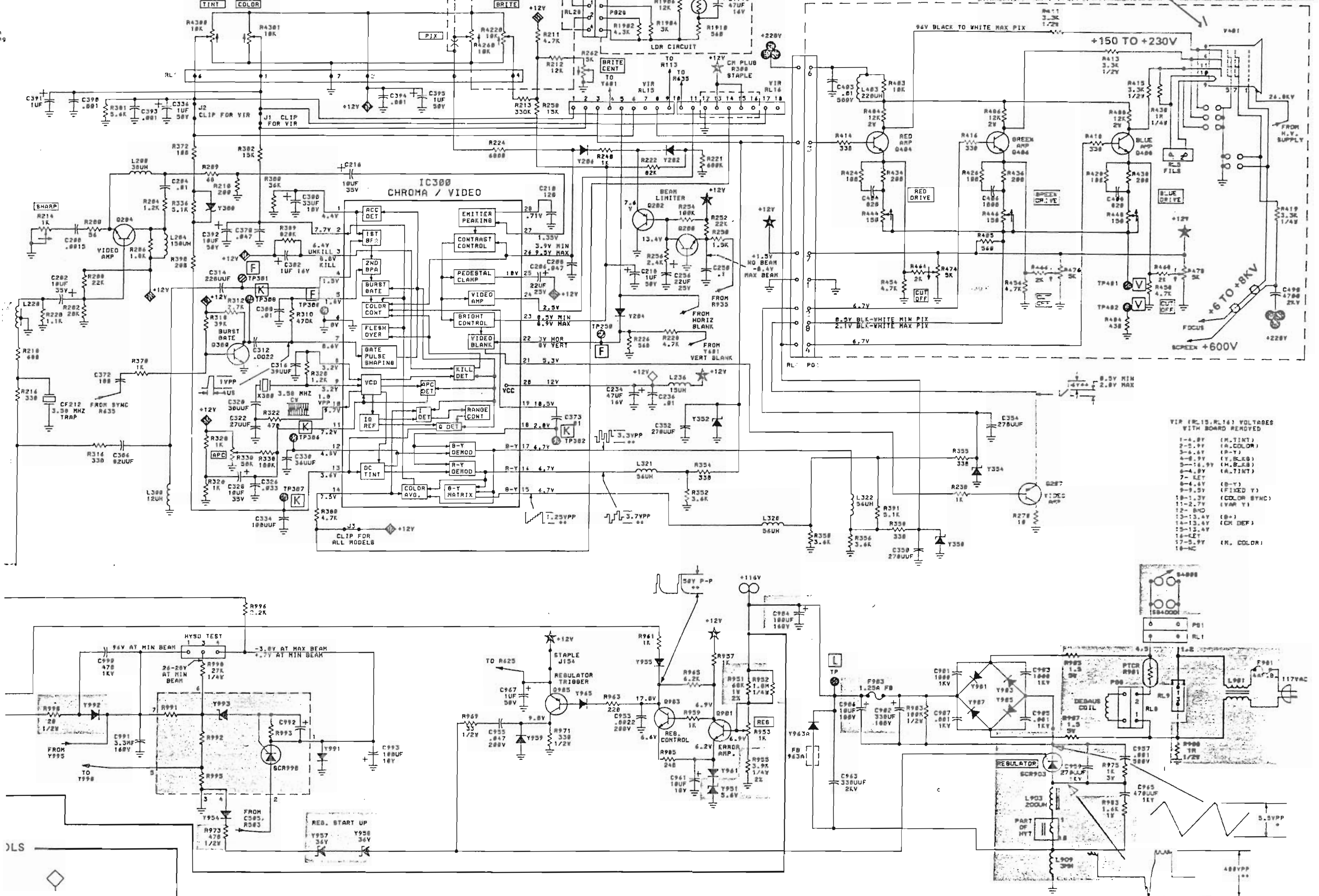
IMPORTANT SAFETY NOTICE

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OR TEST POINT LOCATION (SEE PC CHASSIS LAYOUT ON PAGE 4-22).

— NOTE — **PC CHASSIS**

Replace CRT (V401) with the same type in the receiver or factory authorized substitute only. See Model Page in Service Manual or CRT Label for correct CRT replacement part number.



DLS

◇ +12V SOURCE (IC300 PIN 20)

CHEMATIC DIAGRAM

19PC–C/D/E MAIN CHASSIS REPLACEMENT PARTS LIST

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

CIRCUIT BOARD ASSEMBLIES

PART NO.	DESCRIPTION
	Main Circuit Board
EP93X377	RGB Circuit Board
EP93X453	Horiz. Heat Sink Circuit Board
EP93X462	VIR Circuit Board

CHASSIS

PARTS NOT ON CIRCUIT BOARDS

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C30	EP31X45	47uf, 10%, 25V, Elect.
C60	ES25X22	.01uf, 20%, 50V, Polyester
C232	EP31X147	47uf, +100-10%, 250V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X154	22 ohm, 5%, 1W, Carbon (PC-E Only)
R12	EP14X54	18 ohm, 5%, 1W, Carbon (PC-E Only)
R29	EP14X326	VARSISTOR-"MOV", Metal Oxide
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R234	EP14X296	100 ohm, 5%, 1/2W, Metal Oxide

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz. Centering

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
	EP36X445	COIL-Degaussing
	EP42X8	CONVERGENCE ASM.
	EP76X30	YOKE
L50	ES36X82	CHOKE-220uh, 10%
L1901	EP36X443	COIL-Width
* T701	EP77X56	TRANSFORMER-H.V.
* T1901	EP36X444	COIL-Pincushion Asm.

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-75 to 300 ohm (Antenna)
	EP8X36	ANODE-CRT Connector
	EP2X544	BRACKET-Ckt. Bd. Support, Plastic
	EP2X546	BRACKET-CRT Ground Terminal
	EP2X543	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H.V.T. Support, Plastic
	EP2X271	BRACKET-Rib Boss For Cabinet Front
	EP2X548	BRACKET-Anode Lead Dress
	EP8X51	CABLE-Coaxial, 7" W/Phono Plugs
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-ET91 to UHF & KMP To UHF
	EP8X97	CABLE-Coaxial, VHF to UHF (Mech. Only)
	EP2X90	CLAMP-Yoke & Covn. Retainer
	EP3X4	CLIP-Upper CRT Bkt - Tuner
	EP2X545	CLIP-Chassis Mounting (Uses 2)
	EP2X548	CLIP-Anode Retainer
RL1	EP8X93	CONNECTOR-5 Pos.
RL2	EP8X90	CONNECTOR-3 Pos.
RL2A	EP8X30	CONNECTOR-1 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL6	EP8X66	CONNECTOR-7 Pos.
RL7	EP8X68	CONNECTOR-2 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-3 Pos. (KMP112/LMP112/SET112)
PG/RL12	EP8X30	CONNECTOR-1 Pin
RL16A	EP8X66	CONNECTOR-7 Pos.
RL17	EP8X90	CONNECTOR-5 Pos.
RL28	EP8X42	CONNECTOR-4 Pins
RL59	EP8X43	CONNECTOR-2 Pins
RL60	EP8X43	CONNECTOR-2 Pins
RL232	EP8X90	CONNECTOR-5 Pos.
PG250	EP8X43	CONNECTOR-2 Pins
	EP66X19	CORD-AC Power, Polarized, Wired In-Type
	EP3X53	CUSHION-Yoke Wedge
	EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
	EP92X102	FRAME-Rear Support, For Main Board, Plastic
* F901	EP10X19	FUSE-4 amp, 250V, Snap-In, Fast Acting
* F903	EP10X55	FUSE-1.25 amp, 250V, Snap-In, Slow Acting
	EP34X65	SOCKET-CRT
SG4000	EP41X145	SPARK GAP-(On Units W/Mechanical Tuners) (PC-D/E)
	EP2X534	SPRING-Ground, CRT (Uses 2)
	EP2X535	STRAPS-Degaussing Coil Adjust
	EP90X3	Wire Tie

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	ES25X21	.15uf, 20%, 50V, Polyester (PC-D/E)
C105	EP31X138	.47uf, 20%, 50V, Elect. (PC-C Only)
C106	EP31X159	470uf, 20%, 16V, Elect.
C107	EP18X187	27pf, 5%, 50V, Cer. Disc
C108	EP18X191	68pf, 5%, 50V, Cer. Disc
C109	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C110	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C113	EP18X197	.01uf, 10%, 50V, SHiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C115	EP18X101	13pf, 5%, 50V, NPO, Cer. Disc
C116	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C117	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C118	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C119	EP31X170	4.7uf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C124	EP18X186	22pf, 10%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Elect.
C126	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C127	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C135	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X220	1000pf, 10%, 500V, Cer. Disc
C137	EP18X220	1000pf, 10%, 500V, Cer. Disc
C139	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C142	EP18X259	1000pf, 20%, 500V, HiK, Cer. Disc
C180	EP18X189	47pf, 5%, 50V, Cer. Disc
C182	EP18X189	47pf, 5%, 50V, Cer. Disc
C183	EP31X149	10uf, 20%, 35V, Elect. (PC-D/E)
C183	EP25X87	.047uf, 10%, 50V, Polyester (PC-C Only)
C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C185	EP31X149	10uf, 20%, 35V, Elect.
C186	EP25X130	.022uf, 10%, 50V, Polyester
C187	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C188	EP25X146	.033uf, 10%, 200V, Mylar
C189	EP31X149	10uf, 20%, 35V, Elect.
C190	EP31X149	10uf, 20%, 35V, Elect.
C191	EP18X170	.015uf, 10%, 25V, Cer. Disc
C192	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C193	EP18X113	150pf, 5%, 50V, NPO, Cer. Disc
C194	EP31X152	2.2uf, +50-20%, 250V, Elect.
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
C196	EP31X153	22uf, +50-10%, 160V, Elect.
C197	EP31X170	4.7uf, 20%, 35V, Elect.
C198	EP31X149	10uf, 20%, 35V, Elect.
C199	EP18X169	.01uf, 30%, 25V, Cer. Disc
C200	EP18X274	1500pf, 10%, 50V, SHiK, Cer. Disc
C202	EP31X149	10uf, 10%, 35V, Elect.
C204	EP18X169	.01uf, 30%, 25V, Cer. Disc
C206	EP31X172	22uf, 20%, 25V, Elect.
C208	EP31X170	4.7uf, 20%, 35V, Elect. (PC-E Only)
C210	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	10uf, 10%, 35V, Elect.
C218	EP31X166	1uf, 20%, 50V, Elect.
C234	EP31X88	47uf, 10%, 16V, Elect.
C236	EP18X169	.01uf, 30%, 25V, Elect.
C240	ES18X56	18pf, 10%, 500V, Cer. Disc
C250	EP25X77	.1uf, 20%, 50V, Polyester
C256	EP31X172	22uf, 20%, 25V, Elect.
C300	EP31X175	33uf, +50-20%, 10V, Elect.
C302	EP31X178	1uf, 10%, 35V, Tantalum
C306	EP18X122	82pf, 5%, 50V, Cer. Disc
C308	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C312	EP18X198	2200pf, 30%, 25V, HiK, Cer. Disc
C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	30pf, 5%, 50V, Cer. Disc
C322	EP18X187	27pf, 5%, 50V, Cer. Disc
C326	EP25X124	.033uf, 20%, 50V, Polyester
C328	EP31X149	10uf, 20%, 35V, Elect.
C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	100pf, 5%, 50V, Cer. Disc
C336	EP31X166	1uf, 20%, 50V, Elect.
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C370	EP25X87	.047uf, 20%, 50V, Polyester
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc
C390	EP18X220	1000pf, +80-20%, 500V, HiK Cer Disc
C391	EP31X166	1uf, 20%, 50V, Elect.
C392	EP31X149	10uf, 20%, 35V, Elect.
C393	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C394	EP18X220	1000pf, +80-20%, 500V, HiK Cer Disc
C395	EP31X166	1uf, 20%, 50V, Elect.
C501	EP31X170	4.7uf, 20%, 35V, Elect.
C503	EP25X149	5600pf, 5%, 100V, Polypropylen
C505	EP31X178	1uf, 10%, 16V, Tantalum
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047uf, 10%, 50V, Polyester
C509	EP25X127	.015uf, 10%, 50V, Polyester
C512	EP25X95	.22uf, 10%, 50V, Polyester
C513	EP31X149	10uf, 20%, 35V, Elect.
C514	EP18X197	1000pf, 10%, 50V, SHiK, Cer. Di
C514	EP18X217	330pf, 10%, 50V, SHiK, Cer. Dis
C515	EP25X94	5600pf, 10%, 50V, Polyester
C521	EP25X80	.015uf, 10%, 50V, Polyester (PC-
C517	EP25X87	.047uf, 10%, 50V, Polyester
C521	EP25X160	8200pf, 10%, 50V, Polyester (PC-
C523	EP25X77	.1uf, 20%, 50V, Polyester
C601	EP25X171	.033uf, 10%, 50V, Polyester
C603	EP31X149	10uf, 20%, 35V, Elect.
C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Di
C607	EP31X141	220uf, 20%, 16V, Elect.
C609	EP31X166	1uf, 20%, 50V, Elect.
C611	EP25X130	.022uf, 10%, 50V, Polyester
C613	EP18X286	180pf, 5%, 500V, Cer. Disc
C614	EP31X172	22uf, 20%, 25V, Elect. (PC-D/E)
C614	EP31X11	4.7uf, 20%, 50V, Elect. (PC-C On
C615	EP31X151	2.7uf, 20%, 160V, Elect.
C617	EP18X220	1000pf, 20%, 500V, HiK, Cer. Di
C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Di
C619	EP31X154	470uf, 20%, 10V, Elect.
C621	EP31X169	100uf, 20%, 50V, Elect.
C623	EP31X178	1uf, 10%, 35V, Tantalum
C701	EP25X110	3300pf, 10%, 200V, Mylar
C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Di
C705	EP25X148	.027uf, 10%, 100V, Polyester
C706	EP25X146	.033uf, 20%, 200V, Mylar
C901	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
* C902	EP31X66	330uf, 20%, 180V, Elect.
C903	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
* C904	EP31X109	100uf, 10%, 160V, Elect.
C905	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
* C906	EP31X156	10uf, +50-20%, 180V, Elect.
C907	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
C921	EU22X76	1000pf, 20%, 500V, HiK, Cer. Di
C923	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Di
C925	EP31X159	470uf, 20%, 25V, Elect
C927	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C929	EP18X81	1000pf, 20%, 500V, Cer. Disc
C931	EP31X157	220uf, 20%, 100V, Elect
C933	EP25X89	.047uf, 20%, 300V, Mylar
C935	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
C938	EP18X217	330pf, 10%, 500V, Cer. Disc (PC-
C939	EP31X155	4.7uf, +50-20%, 160V, Elect
C941	EP18X132	8200pf, 10%, 500V, Cer. Disc
C943	EP31X45	47uf, 20%, 16V, Elect.
C945	EU22X212	6800pf, 20%, 500V, Cer. Disc
C947	EP18X118	.1uf, 10%, 25V, Cer. Disc
C953	EP25X161	1800pf, 10%, 200V, Mylar
C955	EP20X20	.047uf, 10%, 200V, Mylar
C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
C959	EP18X266	270pf, 20%, 1KV, SHiK, Cer. Dis
C961	EP31X149	10uf, 20%, 35V, Elect.
C963	ES18X13	330pf, 20%, 2KV, Cer. Disc (PC-I
C965	EP18X11	470pf, 10%, 1KV, Cer. Disc
C967	EP31X166	1uf, 20%, 50V, Elect.
C990	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C991	EP31X160	3.3uf, +50-10%, 160V, Elect.
C993	EP31X169	100uf, 20%, 10V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X187	100 ohm, 5%, 1/8W, Carbon
R102	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R103	ES14X62	1.5K ohm, 5%, 1/8W, Carbon

R104	ES14X57	390 ohm, 5%, 1/8W, Carbon
R105	ES14X56	33 ohm, 5%, 1/8W, Carbon
R108	Common	270K ohm, 5%, 1/8W, Carbon (PC-D/E)
R108	EP14X133	470K ohm, 5%, 1/8W, Carbon (PC-C Only)
R109	ES14X58	470 ohm, 5%, 1/8W, Carbon
R111	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R112	EP14X303	470 ohm, 5%, 1/8W, Carbon
R113	Common	510 ohm, 5%, 1/8W, Carbon (PC-E Only)
R113	EP14X284	1K ohm, 5%, 1/8W, Carbon PC-C/D)
R114	ES14X57	390 ohm, 5%, 1/8W, Carbon (PC-E Only)
R114	EP14X303	470 ohm, 5%, 1/8W, Carbon (PC-C/D)
R115	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R117	Common	220 ohm, 5%, 1/8W, Carbon
R118	Common	9.1K ohm, 5%, 1/8W, Carbon
R119	EP14X119	68K ohm, 5%, 1/8W, Carbon
R121	EP14X125	47K ohm, 5%, 1/8W, Carbon
R122	EP14X182	68 ohm, 5%, 1/8W, Carbon
R123	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R125	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R126	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
R128	EP14X185	120K ohm, 5%, 1/8W, Carbon
R129	ES14X59	560 ohm, 5%, 1/8W, Carbon
R130	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R131	EP14X288	18K ohm, 5%, 1/8W, Carbon
R133	ES14X71	1K ohm, 5%, 1/8W, Carbon
R134	Common	120 ohm, 5%, 1/4W, Carbon
R135	Common	220 ohm, 5%, 1/4W, Carbon
R136	EP14X239	750 ohm, 5%, 1/8W, Carbon
R180	ES14X71	1K ohm, 5%, 1/8W, Carbon
R181	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R182	EP14X284	1K ohm, 5%, 1/8W, Carbon
R183	EP14X284	1K ohm, 5%, 1/8W, Carbon
R186	Common	300 ohm, 5%, 1/8W, Carbon
R188	EP14X271	82K ohm, 5%, 1/8W, Carbon (PC-D/E)
R188	Common	62K ohm, 5%, 1/8W, Carbon (PC-C Only)
R190	Common	62K ohm, 5%, 1/8W, Carbon
R191	ES14X71	1K ohm, 5%, 1/8W, Carbon
* R192	EP14X329	200 ohm, 5%, 1/2W, Carbon Fl. Proof
R193	Common	36K ohm, 5%, 1/4W, Carbon
R194	EP14X103	10K ohm, 5%, 1/8W, Carbon
R195	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R198	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R200	ES14X69	56 ohm, 5%, 1/8W, Carbon
R202	EP14X285	20K ohm, 5%, 1/8W, Carbon
R204	Common	1.2K ohm, 5%, 1/8W, Carbon
R206	EP14X190	1.8K ohm, 5%, 1/8W, Carbon
R208	EP14X303	22K ohm, 5%, 1/8W, Carbon
R209	EP14X182	68 ohm, 5%, 1/8W, Carbon
R210	EP14X329	200 ohm, 5%, 1/8W, Carbon
R211	Common	4.3K ohm, 5%, 1/8W, Carbon (PC-E Only)
R211	EP14X249	4.7K ohm, 5%, 1/8W, Carbon (PC-C/D)
R212	EP14X284	12K ohm, 5%, 1/8W, Carbon
R213	EP14X140	330K ohm, 5%, 1/8W, Carbon (PC-E Only)
R213	EP14X271	82K ohm, 5%, 1/8W, Carbon (PC-C/D)
R216	Common	330 ohm, 5%, 1/8W, Carbon
R218	EP14X283	680 ohm, 5%, 1/8W, Carbon
R220	EP14X189	1.1K ohm, 5%, 1/8W, Carbon
R221	EP14X293	680K ohm, 5%, 1/8W, Carbon
R222	Common	150K ohm, 5%, 1/8W, Carbon (PC-E Only)
R222	EP14X271	82K ohm, 5%, 1/8W, Carbon (PC-C/D)
R224	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R226	ES14X59	560 ohm, 5%, 1/8W, Carbon
R228	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R230	ES14X71	1K ohm, 5%, 1/8W, Carbon
R234	EP14X288	18K ohm, 5%, 1/8W, Carbon
R240	ES14X71	1K ohm, 5%, 1/8W, Carbon
R250	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R252	EP14X303	22K ohm, 5%, 1/8W, Carbon
R254	EP14X105	100K ohm, 5%, 1/8W, Carbon
R256	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
R258	EP14X285	15K ohm, 5%, 1/8W, Carbon
R270	EP14X284	10 ohm, 5%, 1/8W, Carbon
R300	Common	36K ohm, 5%, 1/8W, Carbon
R302	EP14X285	15K ohm, 5%, 1/8W, Carbon
R310	EP14X133	470K ohm, 5%, 1/8W, Carbon
R312	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R316	EP14X128	330 ohm, 5%, 1/8W, Carbon
R318	EP14X309	39K ohm, 5%, 1/8W, Carbon (PC-D/E)
R318	Common	43K ohm, 5%, 1/8W, Carbon (PC-C only)
R320	Common	1.2K ohm, 5%, 1/8W, Carbon
R322	ES14X58	470 ohm, 5%, 1/8W, Carbon
R326	ES14X71	1K ohm, 5%, 1/8W, Carbon
R328	ES14X71	1K ohm, 5%, 1/8W, Carbon
R336	Common	5.1K ohm, 5%, 1/8W, Carbon
R338	EP14X105	100K ohm, 5%, 1/8W, Carbon
R350	Common	3.6K ohm, 5%, 1/8W, Carbon
R352	Common	3.6K ohm, 5%, 1/8W, Carbon
R354	EP14X128	330 ohm, 5%, 1/8W, Carbon
R355	EP14X128	330 ohm, 5%, 1/8W, Carbon
R356	Common	3.6K ohm, 5%, 1/8W, Carbon
R358	EP14X128	330 ohm, 5%, 1/8W, Carbon
R370	EP14X284	1K ohm, 5%, 1/8W, Carbon
R372	Common	300 ohm, 5%, 1/8W, Carbon
R380	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R381	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R389	Common	820K ohm, 10%, 1/8W, Carbon
R390	Common	200 ohm, 5%, 1/8W, Carbon (PC-C/D)
R391	Common	5.1K ohm, 5%, 1/8W, Carbon
R503	EP14X323	6.8K ohm, 5%, 3W, Flame Proof
R506	Common	5.1K ohm, 5%, 1/8W, Carbon
R507	Common	11K ohm, 5%, 1/8W, Carbon
R508	EP14X188	15 ohm, 5%, 1/8W, Carbon
R509	EP14X119	68K ohm, 5%, 1/8W, Carbon
R511	EP14X103	10K ohm, 5%, 1/8W, Carbon
R513	EP14X103	10K ohm, 5%, 1/4W, Carbon
R515	EP14X12	1 meg ohm, 5%, 1/8W, Carbon
R516	Common	150K ohm, 5%, 1/8W, Carbon
R517	Common	110K ohm, 5%, 1/8W, Carbon (PC-C Only)
R518	Common	240K ohm, 5%, 1/8W, Carbon
R519	Common	62K ohm, 5%, 1/8W, Carbon
R521	EP14X187	100 ohm, 5%, 1/8W, Carbon
R523	ES14X57	390 ohm, 5%, 1/8W, Carbon
R525	EP14X304	2.7K ohm, 5%, 1/8W, Carbon (PC-C Only)
R527	EP14X180	5.6K ohm, 5%, 1/8W, Carbon (PC-C Only)
R529	Common	270 ohm, 5%, 1/8W, Carbon (PC-C Only)
R531	ES14X56	33 ohm, 5%, 1/8W, Carbon
R535	EP14X303	22K ohm, 5%, 1/8W, Carbon (PC-E Only)
R535	EP14X103	10K ohm, 5%, 1/8W, Carbon (PC-C/D)
R537	EP14X125	47K ohm, 5%, 1/8W, Carbon
R601	EP14X285	15K ohm, 5%, 1/8W, Carbon
R602	EP14X284	10K ohm, 5%, 1/8W, Carbon (PC-D Only)
R603	ES14X51	47 ohm, 5%, 1/8W, Carbon
R605	EP14X103	10K ohm, 5%, 1/8W, Carbon
R609	EP14X122	7.5K ohm, 5%, 1/8W, Carbon
R611	EP14X128	330 ohm, 5%, 1/8W, Carbon
R613	EP14X243	2.2K ohm 5%, 1/8W, Carbon
R615	EP14X285	20K ohm, 5%, 1/8W, Carbon
R617	Common	220 ohm, 5%, 1/8W, Carbon
R621	EP14X272	6.8 ohm, 5%, 1W, Metal Oxide
R623	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R625	Common	220 ohm, 5%, 1/8W, Carbon
R627	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R631	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R633	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R635	Common	180 ohm, 5%, 1/8W, Carbon
R637	EP14X187	100 ohm, 5%, 1/8W, Carbon
R639	ES14X71	1K ohm, 5%, 1/8W, Carbon
R641	EP14X188	15 ohm, 5%, 1/2W, Carbon
* R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
* R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
* R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R649	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R651	Common	10 ohm, 5%, 1/2W, Carbon
* R653	EP14X220	180 ohm, 5%, 2W, Metal Oxide
R655	Common	2.7K ohm, 5%, 1/2W, Carbon
* R702	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
* R703	EP14X262	.47 ohm, 5%, 2W, Metal Oxide
* R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
* R900	EP14X106	1 meg ohm, 5%, 1/2W, Carbon
* R901	EP14X113	Degaussing
R903	EP14X105	100K ohm, 5%, 1/2W, Carbon
* R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
* R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
* R921	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R923	ES14X79	1 ohm, 5%, 1/2W, Flame Proof
* R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
* R927	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R929	EP14X210	.82 ohm, 5%, 1W, Metal Oxide
R932	Common	120 ohm, 5%, 1/4W, Carbon
R932A	Common	120 ohm, 5%, 1/4W, Carbon
R933	Common	220K ohm, 5%, 1/2W, Carbon
* R935	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
* R936	EU13X4	1K ohm, 5%, 1/2W, Carbon
* R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R939	EP14X187	100 ohm, 5%, 1/2W, Carbon
* R941	EP14X54	18 ohm,5%,2W,Metal (PC-D/E)
* R941	EP14X154	22 ohm,5%,2W,Metal (PC-C Only)
R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
R952	Common	1.8 meg, ohm, 5%, 1/4W, Carbon
R954	EP14X105	100K ohm, 5%, 1/4W, Carbon
R955	EP14X252	3.9K ohm, 2%, 1/8W, Carbon
R957	EP14X284	1K ohm, 5%, 1/8W, Carbon
R959	EP14X284	1K ohm, 5%, 1/8W, Carbon
R961	ES14X71	1K ohm, 5%, 1/8W, Carbon
R963	Common	220 ohm, 5%, 1/8W, Carbon
R965	Common	6.2K ohm, 5%, 1/8W, Carbon
R969	ES14X56	33 ohm, 5%, 1/2W, Carbon
R971	EP14X128	330 ohm, 5%, 1/2W, Carbon
R973	ES14X58	470 ohm, 5%, 1/2W, Carbon
* R975	EP14X275	1K ohm, 10%, 3W, Wirewound
R981	EP14X318	3 ohm, 10%, 5W, Wirewound
* R983	EP14X368	1.6K ohm,5%,1W,Metal Oxide (PC-E Only)
* R983	EP14X321	470 ohm,5%,2W,Metal Oxide (PC-C/D)
R985	Common	240 ohm, 5%, 1/8W, Carbon
R990	EP14X269	20 ohm, 5%, 1/2W, Carbon
R996	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R998	Common	27K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R116	EP49X463	RF/AFC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X464	Sharpness. 1K ohm, 20%
R262	EP49X463	Brightness, 5K ohm, 20%
R330	EP49X465	APC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg., 1K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
*	EP62X167	HVSD-Thick Film
IC101	EP84X213	VIF/Det/AFC
IC190	EP84X216	IF/Sound
IC300	EP84X221	Chroma/Video
IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V, 3 Ter. Regulator

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
SCR903	EP15X217	SCR Regulator, PNP
Q105	EP15X104	Pre Amp, HF, BiPolar
Q110	EP15X87	Video Emitter Follower NPN, Silicon
Q190	EP15X19	Audio Output, NPN, Silicon
Q192	EP15X19	Audio Output, NPN, Silicon
Q200	EP15X88	Regulator, NPN, Silicon
Q202	EP15X48	Beam Limiter, PNP, Silicon

19PC–F/H MAIN CHASSIS REPLACEMENT PARTS LIST

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

CIRCUIT BOARD ASSEMBLIES

PART NO.	DESCRIPTION
	Main Circuit Board
EP93X550	RGB Circuit Board
EP93X536	Horiz. Heat Sink Circuit Board
EP93X462	VIR Circuit Board

CHASSIS

PARTS NOT ON CIRCUIT BOARDS

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C30	EP31X45	47uf, 10%, 35V, Elect.
C60	ES25X22	.01uf, 20%, 50V, Polyester
C90	EP31X161	4.7uf, 20%, 16V, Bi Polar, Elect.
C232	EP31X147	47uf, + 100-10%, 250V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X154	22 ohm, 5%, 1W, Carbon
R12	EP14X54	18 ohm, 5%, 1W, Carbon
R29	EP14X326	VARSISTOR-"MOV", Metal Oxide
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R234	EP14X296	100 ohm, 5%, 1/2W, Metal Oxide

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz. Centering

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
	EP36X445	COIL-Degaussing
	EP42X8	CONVERGENCE ASM.
	EP76X37	YOKE
L50	ES36X82	CHOKE-220uh, 10%
L1901	EP36X443	COIL-Width
★T701	EP77X64	TRANSFORMER-H.V.
★T1901	EP36X444	COIL-Pincushion Asm.
	EP88X46	TRANSFORMER-For Tuner Control Bd.

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP60X13	AIR GAP-For H. V. T.
	EP90X40	ADAPTOR-75 to 300 ohm (Antenna)
	EP8X36	ANODE-CRT Connector
	EP2X544	BRACKET-Ckt. Bd. Support, Plastic
	EP2X546	BRACKET-CRT Ground Terminal
	EP2X543	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H.V.T. Support, Plastic
	EP2X271	BRACKET-Rib Boss For Cabinet Front
	EP2X542	BRACKET-VIR Board Support, Plastic
	EP2X548	BRACKET-Anode Lead Dress
	EP8X51	CABLE-Coaxial, 7" W/Phono Plugs
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-ET91 to UHF & KMP To UHF
	EP2X90	CLAMP-Yoke & Covn. Retainer
	EP3X4	CLIP-Upper CRT Bkt—Tuner
	EP2X545	CLIP-Chassis Mounting (Uses 2)
	EP2X548	CLIP-Anode Retainer, Plastic
	EP3X57	CLIP-Anode Retainer
RL1	EP8X93	CONNECTOR-5 Pos.
RL2	EP8X90	CONNECTOR-3 Pos.
RL2A	EP8X30	CONNECTOR-1 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL6	EP8X66	CONNECTOR-7 Pos.
RL7	EP8X68	CONNECTOR-2 Pos.
RL9/RL9A	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-3 Pos.
PG/RL12	EP8X30	CONNECTOR-1 Pin
RL16A	EP8X66	CONNECTOR-7 Pos.
RL17	EP8X90	CONNECTOR-5 Pos.
RL28	EP8X42	CONNECTOR-4 Pins
RL59	EP8X43	CONNECTOR-2 Pins
RL60	EP8X43	CONNECTOR-2 Pins
RL232	EP8X90	CONNECTOR-5 Pos.
RL241	EP8X135	CONNECTOR-16 Pos.
RL244/ RL244A	EP8X91	CONNECTOR-9 Pos.
PG/RL250	EP8X43	CONNECTOR-2 Pins
RL251	EP8X92	CONNECTOR-8 Pos.
	★EP66X19	CORD-AC Power, Polarized, Wired In-Type
	EP3X53	CUSHION-Yoke Wedge
	EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
	EP92X102	FRAME-Rear Support, For Main Board, Plastic
★F901	EP10X19	FUSE-4 amp, 250V, Snap-In, Fast Acting
★F903	EP10X27	FUSE-1.25 amp, 250V, Snap-In, Fast Acting (PC-F only)
★F903	EP10X57	FUSE-1.25 amp, 250V, Snap-In, Med Acting (PC-H only)
	EP34X65	SOCKET-CRT
SG4000	EP41X145	SPARK GAP-(On Units W/Mechanical Tuners)
	EP2X534	SPRING-Ground, CRT (Uses 2)
	EP2X535	STRAPS-Degaussing Coil Adjust
	EP90X3	Wire Tie

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	ES25X21	.15uf, 20%, 50V, Polyester
C106	EP31X159	470uf, 20%, 16V, Elect.
C110	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C113	EP18X197	.01uf, 10%, 50V, SHiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C115	EP18X101	13pf, 5%, 50V, NPO, Cer. Disc
C116	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C117	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C118	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C119	EP31X170	4.7uf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C124	EP18X185	18pf, 5%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Elect.
C126	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C127	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C135	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X259	1000pf, 10%, 500V, Cer. Disc
C137	EP18X259	1000pf, 10%, 500V, Cer. Disc
C139	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C142	EP18X259	1000pf, 20%, 500V, HiK, Cer. Disc
C180	EP18X189	47pf, 5%, 50V, Cer. Disc
C182	EP18X189	47pf, 5%, 50V, Cer. Disc
C183	EP31X149	10uf, 20%, 35V, Elect.
C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C185	EP31X149	10uf, 20%, 35V, Elect.
C186	EP25X130	.022uf, 10%, 50V, Polyester
C187	EP31X177	470uf, 20%, 50V, Elect.
C188	EP25X165	4700pf, 10%, 50V, Polyester
C189	EP31X149	10uf, 20%, 35V, Elect.
C190	EP31X149	10uf, 20%, 35V, Elect.
C191	EP25X13	.027uf, 10%, 50V, Polyester
C192	EP31X45	47uf, 20%, 35V, Elect.
C193	EP18X113	150pf, 5%, 50V, NPO, Cer. Disc
C194	EP31X141	220uf, 20%, 25V, Elect.
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
C197	EP31X170	4.7uf, 20%, 35V, Elect.
C198	EP31X149	10uf, 20%, 35V, Elect.
C199	EP18X169	.01uf, 30%, 25V, Cer. Disc
C200	EP18X274	1500pf, 10%, 50V, SHiK, Cer. Disc
C202	EP31X149	10uf, 10%, 35V, Elect.
C204	EP18X169	.01uf, 30%, 25V, Cer. Disc
C206	EP31X172	22uf, 20%, 25V, Elect.
C208	EP18X172	.47uf, 20%, 50V, Elect.
C210	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	10uf, 10%, 35V, Elect.
C218	EP31X166	1uf, 20%, 50V, Elect.
C234	EP31X88	47uf, 10%, 16V, Elect.
C236	EP18X169	.01uf, 30%, 25V, Elect.
C240	ES18X56	18pf, 10%, 500V, Cer. Disc
C250	EP25X77	.1uf, 20%, 50V, Polyester
C256	EP31X172	22uf, 20%, 25V, Elect.
C300	EP31X175	33uf, + 50-20%, 10V, Elect.
C302	EP31X178	1uf, 10%, 16V, Tantalum
C306	EP18X280	82pf, 5%, 50V, Cer. Disc
C308	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C312	EP18X198	2200pf, 30%, 25V, HiK, Cer. Disc
C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	30pf, 5%, 50V, Cer. Disc
C322	EP18X32	36pf, 5%, 50V, Cer. Disc
C326	EP25X124	.033uf, 20%, 50V, Polyester
C328	EP31X149	10uf, 20%, 35V, Elect.
C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	100pf, 5%, 50V, Cer. Disc
C336	EP31X166	1uf, 20%, 50V, Elect.
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C370	EP25X87	.047uf, 20%, 50V, Polyester
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc
C390	EP18X220	1000pf, + 80-20%, 500V, HiK Cer Disc
C391	EP31X166	1uf, 20%, 50V, Elect.
C392	EP31X149	10uf, 20%, 35V, Elect.
C393	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C394	EP18X220	1000pf, + 80-20%, 500V, HiK Cer Disc
C395	EP31X166	1uf, 20%, 50V, Elect.
C501	EP31X170	4.7uf, 20%, 35V, Elect.
C503	EP25X149	5600pf, 5%, 100V, Polypropylene
C505	EP31X178	1uf, 10%, 16V, Tantalum
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047uf, 10%, 50V, Polyester
C509	EP25X80	.015uf, 10%, 50V, Polyester
C513	EP31X149	10uf, 20%, 35V, Elect.
C514	EP22X5	680pf, 10%, 50V, Cer. Disc
C515	EP31X166	1uf, 20%, 50V, Elect.
C517	EP25X183	.022uf, 10%, 50V, Polyester
C521	EP25X80	.015uf, 10%, 50V, Polyester
C523	EP25X77	.1uf, 20%, 50V, Polyester
C601	EP25X171	.033uf, 10%, 50V, Polyester
C603	EP31X149	10uf, 20%, 35V, Elect.
C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Disc
C607	EP31X141	220uf, 20%, 16V, Elect.
C609	EP31X166	1uf, 20%, 50V, Elect.
C611	EP25X183	.022uf, 10%, 50V, Polyester
C613	EP18X286	180pf, 5%, 500V, Cer. Disc
C614	EP31X172	22μf, 20%, 25V, Elect.
C615	EP31X151	2.7μf, 20%, 160V, Elect.
C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C621	EP31X169	100μf, 20%, 50V, Elect.
C623	EP31X178	1μf, 10%, 35V, Tantalum
C701	EP25X110	3300pf, 10%, 200V, Mylar
C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
C705	EP25X148	.027μf, 10%, 100V, Polyester

C706	EP25X146	.033µf, 20%, 200V, Mylar
C901	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
★C902	EP31X66	330µf, 20%, 180V, Elect.
C903	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
★C904	EP31X109	100µf, 10%, 160V, Elect.
C905	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
★C906	EP31X156	10µf, +50-20%, 180V, Elect.
C907	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
C921	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc
C923	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C925	EP31X159	470µf, 20%, 25V, Elect
C927	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C929	EP18X81	1000pf, 20%, 500V, Cer. Disc
C931	EP31X157	220µf, 20%, 100V, Elect
C933	EP25X89	.047µf, 20%, 300V, Mylar
C935	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
C938	EP18X217	330pf, 10%, 500V, Cer. Disc
C939	EP31X155	4.7µf, +50-20%, 160V, Elect
C941	EP18X132	8200pf, 10%, 500V, Cer. Disc
C943	EP31X45	47µf, 20%, 16V, Elect.
C945	EP31X166	1µf, 20%, 50V, Elect.
C947	EP18X118	.1µf, 10%, 25V, Cer. Disc
C953	EP25X161	1800pf, 10%, 200V, Mylar
C955	EP20X20	.047µf, 10%, 200V, Mylar
C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
C959	EP18X266	270pf, 20%, 1KV, SHiK, Cer. Disc
C961	ES31X32	100µf, 20%, 10V, Elect.
C963	ES18X13	330pf, 20%, 2KV, Cer. Disc
C965	EP18X11	470pf, 10%, 1KV, Cer. Disc
C967	EP31X166	1µf, 20%, 50V, Elect.
C990	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C991	EP31X160	3.3µf, +50-10%, 160V, Elect.
C993	EP31X169	100µf, 20%, 10V, Elect.

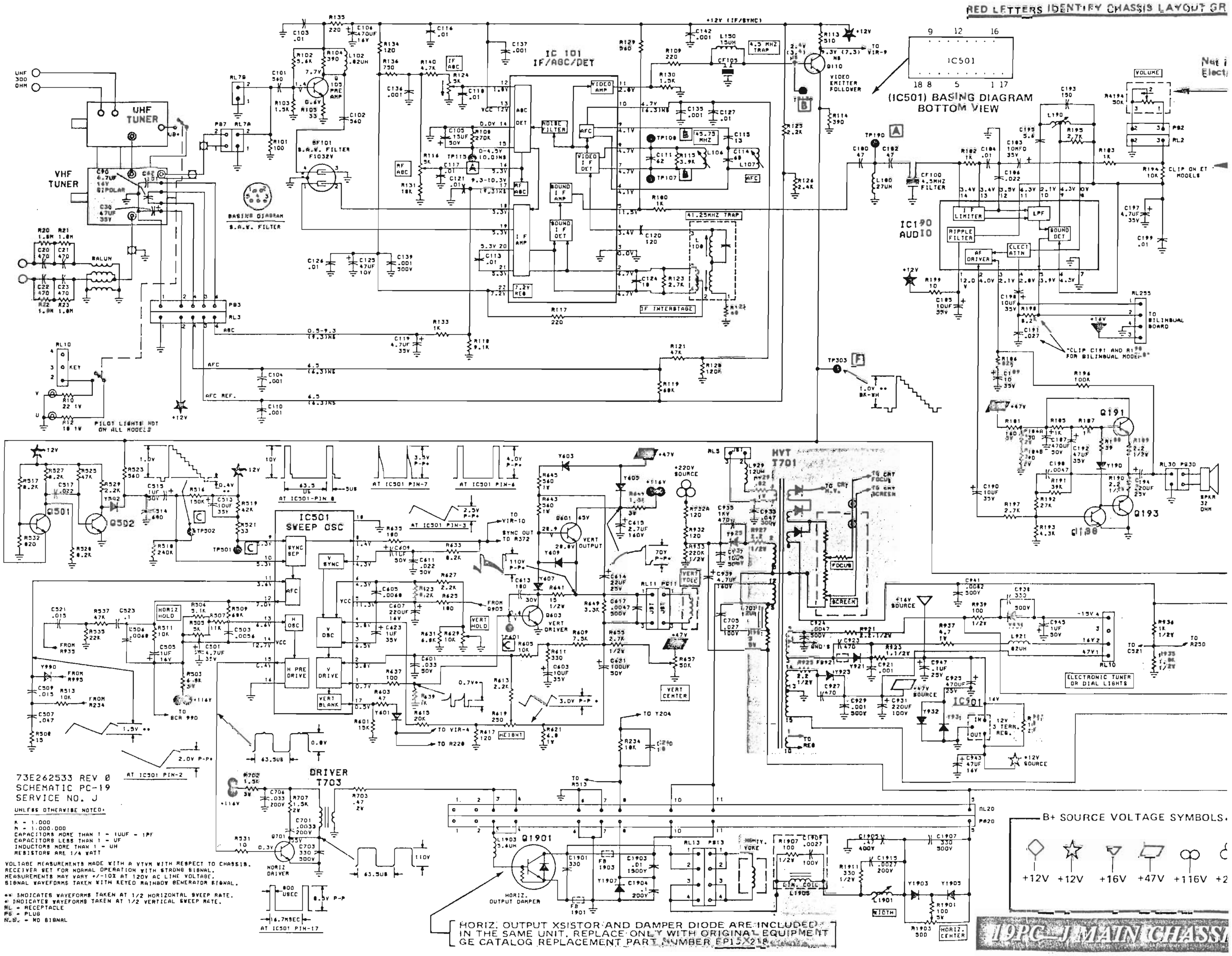
RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	ES14X70	100 ohm, 5%, I/4W, Carbon
R102	EP14X379	5.6K ohm, 5%, I/4W, Carbon
R103	ES14X62	1.5K ohm, 5%, I/4W, Carbon
R104	ES14X57	390 ohm, 5%, I/4W, Carbon
R105	ES14X56	33 ohm, 5%, I/4W, Carbon
R108	EP14X97	270K ohm, 5%, I/4W, Carbon
R109	EP14X318	220 ohm, 5%, I/8W, Carbon
R113	EP14X373	510 ohm, 5%, I/8W, Carbon
R114	ES14X57	390 ohm, 5%, I/4W, Carbon
R115	EP14X407	3.9K ohm, 5%, I/8W, Carbon
R117	EP14X318	220 ohm, 5%, I/4W, Carbon
R118	EP14X370	9.1K ohm, 5%, I/4W, Carbon
R119	EP14X119	68K ohm, 5%, I/4W, Carbon
R121	EP14X131	47K ohm, 5%, I/4W, Carbon
R122	EP14X182	68 ohm, 5%, I/4W, Carbon
R123	EP14X304	2.7K ohm, 5%, I/8W, Carbon
R125	EP14X243	2.2K ohm, 5%, I/4W, Carbon
R126	EP14X184	2.4K ohm, 5%, I/8W, Carbon
R128	EP14X185	120K ohm, 5%, I/4W, Carbon
R129	ES14X59	560 ohm, 5%, I/4W, Carbon
R130	ES14X62	1.5K ohm, 5%, I/4W, Carbon
R131	EP14X414	18K ohm, 5%, I/4W, Carbon
R133	ES14X71	1K ohm, 5%, I/4W, Carbon
R134	EP14X378	120 ohm, 5%, I/4W, Carbon
R135	EP14X318	220 ohm, 5%, I/4W, Carbon
R136	EP14X385	750 ohm, 5%, I/8W, Carbon
R140	EP14X249	4.7K ohm, 5%, 1/8W, Carbon
R180	ES14X71	IK ohm, 5%, I/4W, Carbon
R181	EP14X442	160 ohm, 5%, 5W, Wirewound
R182	EP14X284	1K ohm, 5%, I/8W, Carbon
R183	EP14X284	IK ohm, 5%, I/8W, Carbon
R184A	EP14X115	430 ohm, 5%, 2W, Carbon
R184B	EP14X228	390 ohm, 5%, 2W, Metal Oxide
R185	ES14X71	1K ohm, 5%, 1/4W, Carbon
R186	ES14X61	820 ohm, 5%, I/4W, Carbon
R187	ES14X71	1K ohm, 5%, 1/4W, Carbon
R188	EP14X434	39 ohm, 5%, I/4W, Carbon
R189	ES14X80	2.2 ohm, 5%, 1/2W, Carbon
R190	ES14X80	2.2 ohm, 5%, I/2W, Carbon
R191	EP14X447	39K ohm, 5%, I/4W, Carbon
★R192	EP14X380	27K ohm, 5%, I/4W, Carbon
R193	EP14X421	4.3K ohm, 5%, I/4W, Carbon
R194	EP14X103	10K ohm, 5%, I/4W, Carbon
R195	EP14X400	2.7K ohm, 5%, I/4W, Carbon
R196	EP14X105	100K ohm, 5%, 1/4W, Carbon
R197	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
R198	EP14X424	8.2K ohm, 5%, I/4W, Carbon
R199	EP14X409	10 ohm, 5%, 1/4W, Carbon
R200	ES14X69	56 ohm, 5%, I/4W, Carbon
R202	EP14X285	20K ohm, 5%, I/8W, Carbon
R204	EP14X444	1.2K ohm, 5%, I/8W, Carbon
R206	EP14X243	2.2K ohm, 5%, I/8W, Carbon
R208	EP14X303	22K ohm, 5%, I/8W, Carbon
R209	EP14X428	82 ohm, 5%, I/4W, Carbon
R210	EP14X220	180 ohm, 5%, I/4W, Carbon
R211	EP14X421	4.3K ohm, 5%, I/8W, Carbon
R212	EP14X284	12K ohm, 5%, I/8W, Carbon
R213	EP14X140	330K ohm, 5%, I/8W, Carbon
R216	EP14X420	270 ohm, 5%, I/8W, Carbon
R217	ES14X61	820 ohm, 5%, 1/8W, Carbon
R218	EP14X289	430 ohm, 5%, I/8W, Carbon
R220	EP14X283	680 ohm, 5%, I/8W, Carbon
R221	EP14X293	680K ohm, 5%, I/4W, Carbon
R222	EP14X415	82K ohm, 5%, I/4W, Carbon
R224	EP14X103	10K ohm, 5%, I/8W, Carbon
R226	ES14X59	560 ohm, 5%, I/4W, Carbon
R228	ES14X65	4.7K ohm, 5%, I/4W, Carbon
R230	ES14X71	1K ohm, 5%, I/4W, Carbon
R234	EP14X414	18K ohm, 5%, I/4W, Carbon
R240	ES14X71	1K ohm, 5%, I/4W, Carbon
R250	ES14X62	1.5K ohm, 5%, I/4W, Carbon
R252	EP14X303	22K ohm, 5%, I/8W, Carbon
R254	EP14X105	100K ohm, 5%, I/8W, Carbon
R256	EP14X411	2.4K ohm, 5%, I/4W, Carbon
R258	EP14X398	15K ohm, 5%, I/4W, Carbon
R270	EP14X284	10 ohm, 5%, I/8W, Carbon
R300	EP14X426	36K ohm, 5%, I/4W, Carbon
R302	EP14X370	9.1K ohm, 5%, I/4W, Carbon
R310	EP14X133	470K ohm, 5%, I/8W, Carbon
R312	EP14X400	2.7K ohm, 5%, I/4W, Carbon
R316	EP14X128	330 ohm, 5%, I/4W, Carbon
R318	EP14X447	39K ohm, 5%, I/4W, Carbon
R320	EP14X444	1.2K ohm, 5%, I/8W, Carbon
R322	ES14X58	470 ohm, 5%, I/4W, Carbon
R326	ES14X71	1K ohm, 5%, I/4W, Carbon
R328	ES14X71	1K ohm, 5%, I/4W, Carbon
R336	EP14X381	3K ohm, 5%, I/4W, Carbon
R338	EP14X105	100K ohm, 5%, 1/4W, Carbon
R350	EP14X436	3.6K ohm, 5%, I/4W, Carbon
R352	EP14X436	3.6K ohm, 5%, I/4W, Carbon
R354	EP14X128	330 ohm, 5%, I/4W, Carbon
R355	EP14X128	330 ohm, 5%, I/4W, Carbon
R356	EP14X436	3.6K ohm, 5%, I/4W, Carbon
R358	EP14X128	330 ohm, 5%, I/4W, Carbon
R370	EP14X284	IK ohm, 5%, I/8W, Carbon
R372	EP14X402	300 ohm, 5%, I/4W, Carbon
R380	ES14X65	4.7K ohm, 5%, I/4W, Carbon
R381	EP14X180	5.6K ohm, 5%, I/8W, Carbon
R389	EP14X382	820K ohm, 5%, 1/4W, Carbon
R391	EP14X418	5.1K ohm, 5%, I/4W, Carbon
R503	EP14X323	6.8K ohm, 5%, 3W, Flame Proof
R506	EP14X418	5.1K ohm, 5%, I/4W, Carbon
R507	EP14X376	11K ohm, 5%, I/4W, Carbon
R508	EP14X188	15 ohm, 5%, I/4W, Carbon
R509	EP14X119	68K ohm, 5%, I/4W, Carbon
R511	EP14X103	10K ohm, 5%, I/8W, Carbon
R513	EP14X103	10K ohm, 5%, I/4W, Carbon
R516	EP14X453	150K ohm, 5%, I/4W, Carbon
R517	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R518	EP14X425	240K ohm, 5%, I/4W, Carbon
R519	EP14X422	62K ohm, 5%, I/4W, Carbon
R521	ES14X56	33 ohm, 5%, I/4W, Carbon
R523	ES14X59	560 ohm, 5%, I/4W, Carbon
R525	EP14X131	47K ohm, 5%, 1/4W, Carbon
R527	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R528	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R529	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R531	EP14X409	10 ohm, 5%, I/4W, Carbon
R532	ES14X61	820 ohm, 5%, 1/4W, Carbon
R535	EP14X104	22K ohm, 5%, I/4W, Carbon
R537	EP14X131	47K ohm, 5%, 1/4W, Carbon
R601	EP14X398	15K ohm, 5%, I/4W, Carbon
R603	ES14X51	47 ohm, 5%, I/4W, Carbon
R605	EP14X103	10K ohm, 5%, I/4W, Carbon
R609	EP14X122	7.5K ohm, 5%, 1/4W, Carbon
R611	EP14X128	330 ohm, 5%, I/4W, Carbon
R613	EP14X243	2.2K ohm 5%, I/4W, Carbon
R615	EP14X285	20K ohm, 5%, I/8W, Carbon
R617	EP14X129	220 ohm, 5%, I/4W, Carbon
R621	EP14X388	6.8 ohm, 5%, 1W, Metal Oxide
R623	EP14X424	8.2K ohm, 5%, I/4W, Carbon
R625	EP14X220	180 ohm, 5%, I/4W, Carbon
R627	EP14X243	2.2K ohm, 5%, I/4W, Carbon
R631	EP14X456	6.8K ohm, 5%, I/4W, Carbon
R633	EP14X424	8.2K ohm, 5%, I/4W, Carbon
R635	EP14X220	180 ohm, 5%, I/8W, Carbon
R637	ES14X70	100 ohm, 5%, I/4W, Carbon
R639	ES14X71	1K ohm, 5%, I/4W, Carbon
R641	EP14X188	15 ohm, 5%, I/2W, Carbon
★R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
★R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
★R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R649	EP14X183	3.3K ohm, 5%, I/4W, Carbon
R655	EP14X130	2.7K ohm, 5%, I/2W, Carbon
★R702	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
★R703	EP14X348	.47 ohm, 5%, 2W, Metal Oxide
★R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
★R900	EP14X106	1 meg ohm, 5%, I/2W, Carbon
★R901	EP14X113	THERMISTER
R903	EP14X105	100K ohm, 5%, I/2W, Carbon
★R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
★R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
★R921	ES14X80	2.2 ohm, 5%, I/2W, Flame Proof
R923	ES14X79	1 ohm, 5%, I/2W, Flame Proof
★R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
★R927	ES14X80	2.2 ohm, 5%, I/2W, Flame Proof
R929	EP14X210	.82 ohm, 5%, 1W, Metal Oxide
R932	EP14X378	120 ohm, 5%, I/4W, Carbon

(CONTINUED)

19PC—J CHASSIS

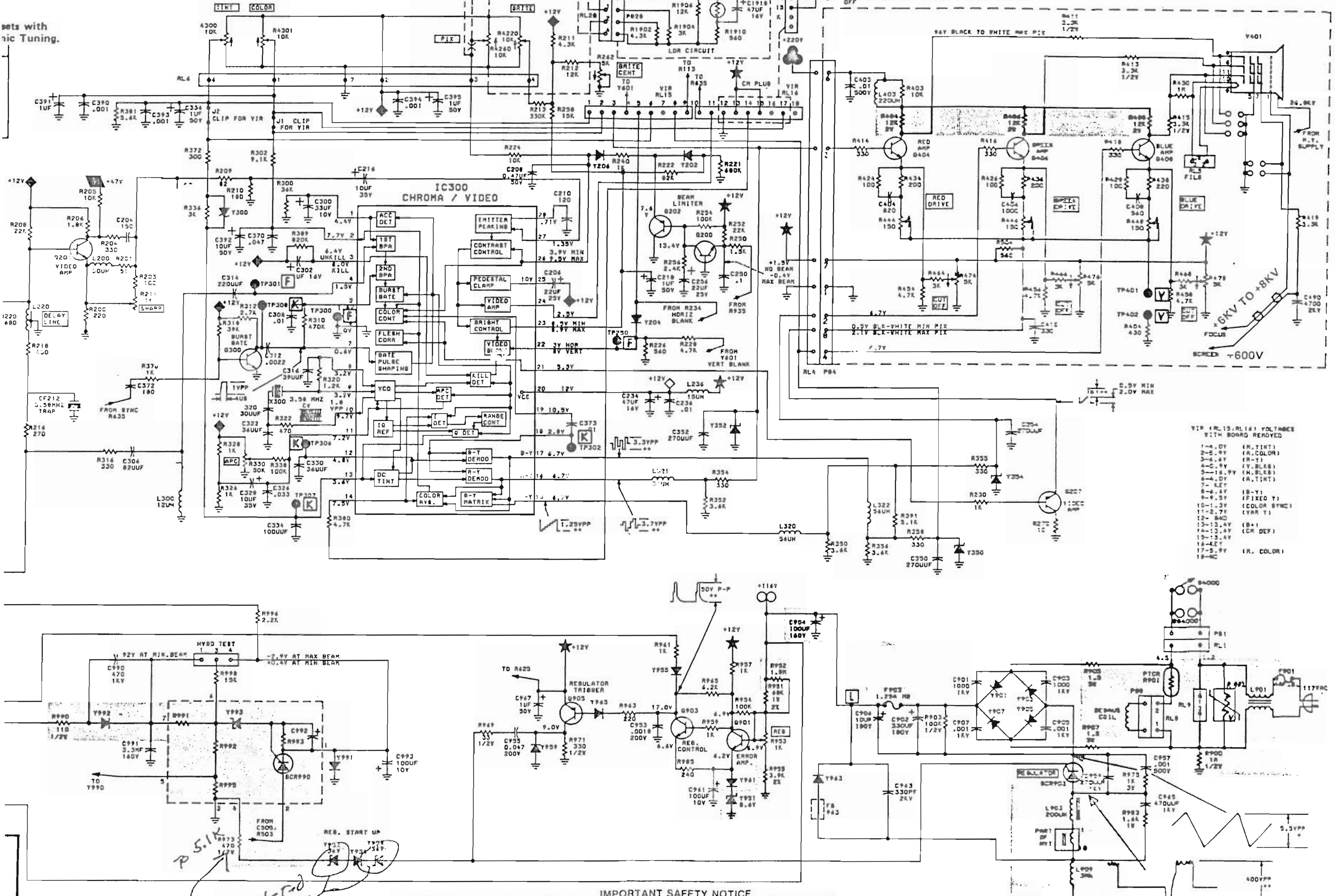
SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRONIC TUNING MODELS.



FOR TEST POINT LOCATION (SEE PC CHASSIS LAYOUT PAGE 4-38)

—NOTE—

Replace CRT (V401) with the same type in the receiver or factory authorized substitute only. See Model Page in Service Manual or CRT Label for correct CRT replacement part Number.



IMPORTANT SAFETY NOTICE

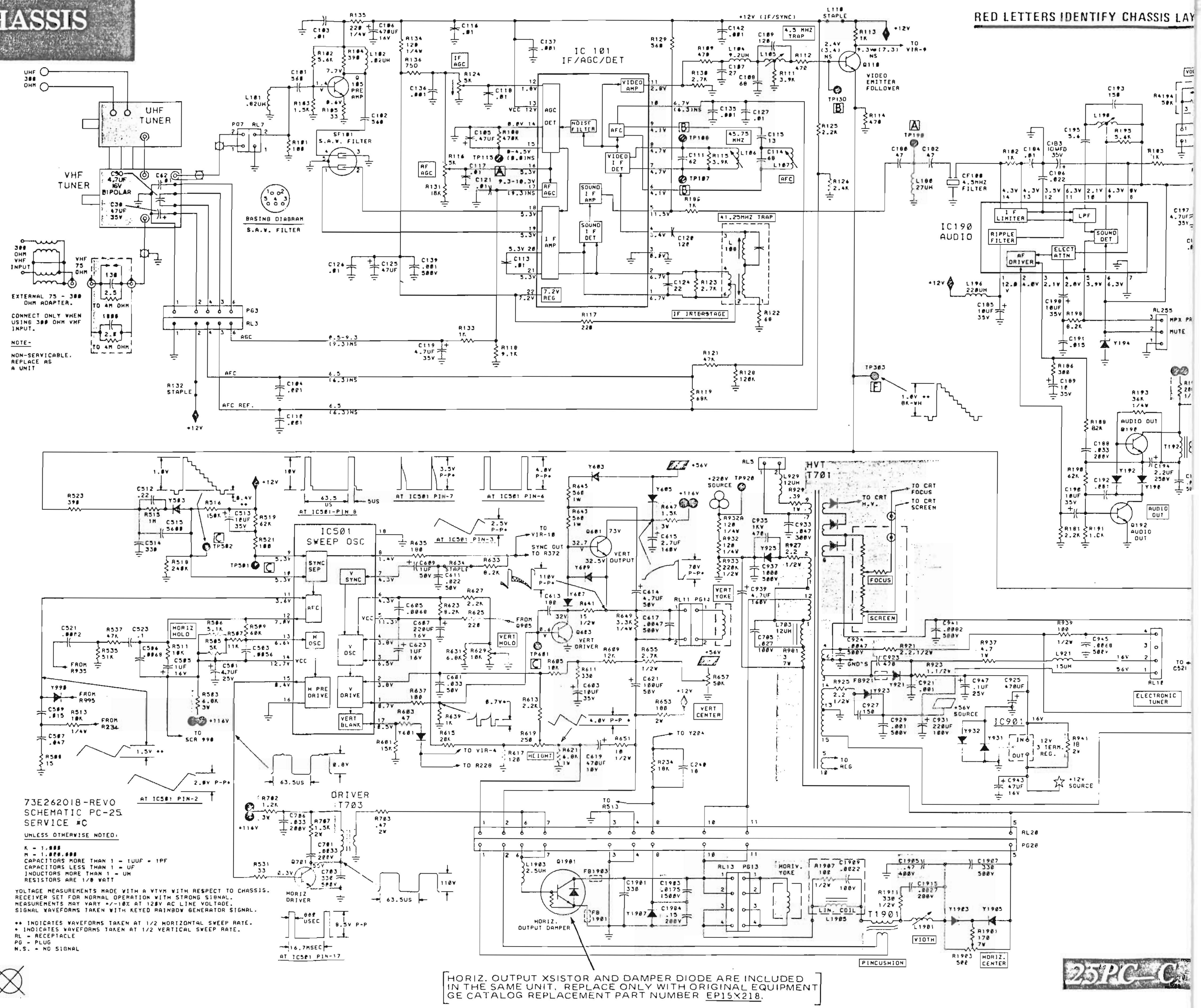
Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

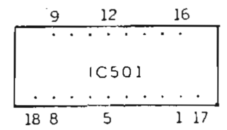
SCHEMATIC DIAGRAM

25PC—C CHASSIS

SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRONIC TUNING MODELS.

RED LETTERS IDENTIFY CHASSIS LAY





BASING DIAGRAM (IC501)
BOTTOM VIEW

73E262018-REVO
SCHEMATIC PC-25
SERVICE #C

UNLESS OTHERWISE NOTED:

K = 1,000
M = 1,000,000
CAPACITORS MORE THAN 1 = UUF = PF
CAPACITORS LESS THAN 1 = UF
INDUCTORS MORE THAN 1 = UH
RESISTORS ARE 1/8 WATT

VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS.
RECEIVER SET FOR NORMAL OPERATION WITH STRONG SIGNAL.
MEASUREMENTS MAY VARY +/-10% AT 120V AC LINE VOLTAGE.
SIGNAL WAVEFORMS TAKEN WITH KEYED RAINBOW GENERATOR SIGNAL.

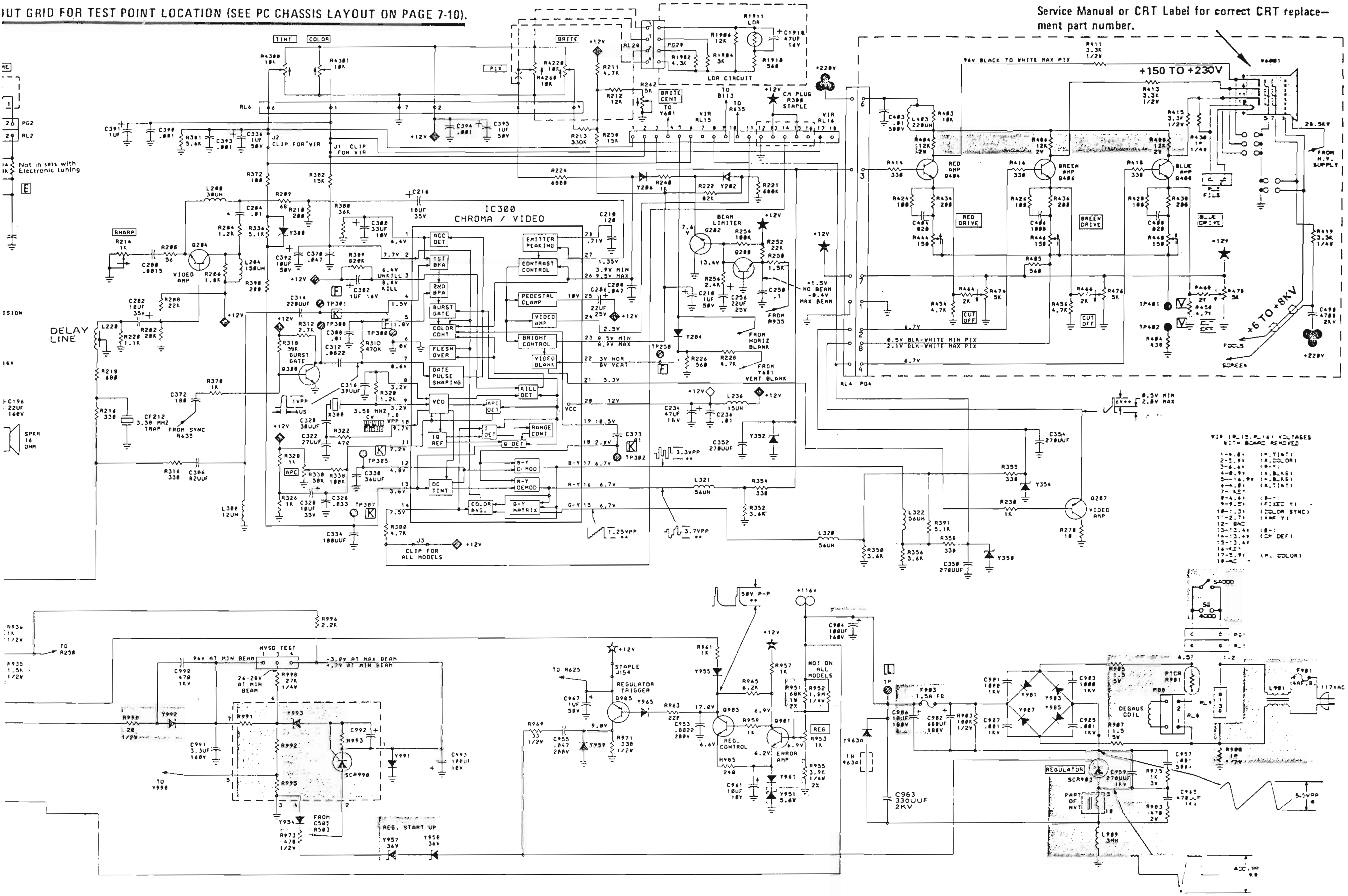
** INDICATES WAVEFORMS TAKEN AT 1/2 HORIZONTAL SWEEP RATE.
* INDICATES WAVEFORMS TAKEN AT 1/2 VERTICAL SWEEP RATE.
RL = RECEPTACLE
PG = PLUG
N.S. = NO SIGNAL

IMPORTANT SAFETY NOTICE

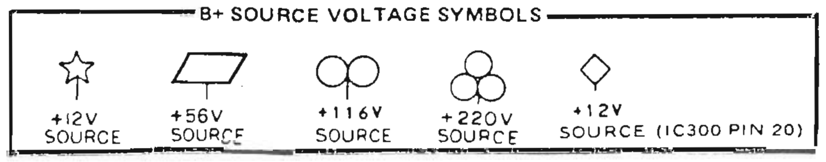
Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

HORIZ. OUTPUT XSISTOR AND DAMPER DIODE ARE INCLUDED IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT GE CATALOG REPLACEMENT PART NUMBER EP15X218.

25PC—C



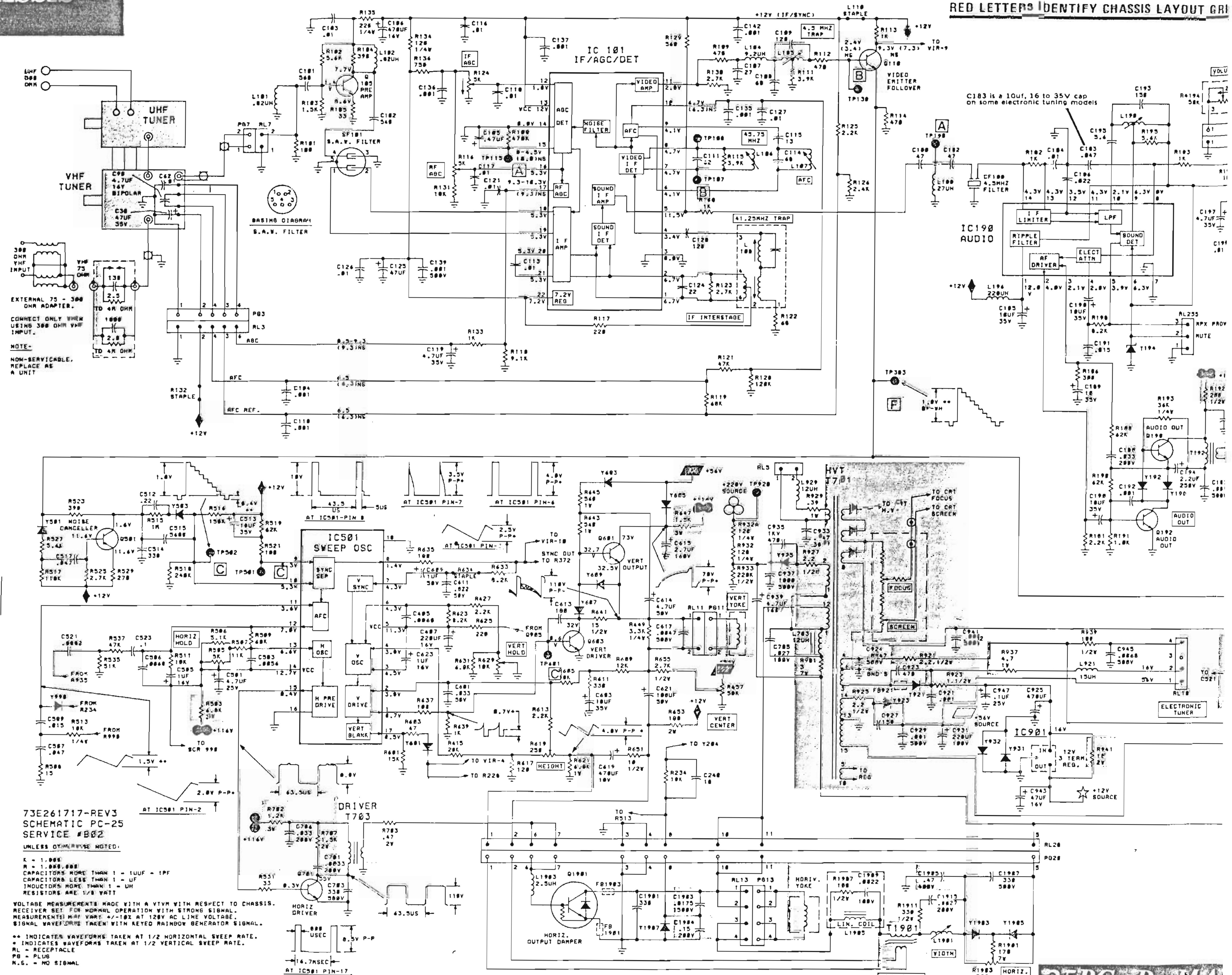
MAIN CHASSIS SCHEMATIC DIAGRAM



25PC—B CHASSIS

RED LETTERS IDENTIFY CHASSIS LAYOUT GRI

SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRONIC TUNING MODELS.



BASING DIAGRAM (IC501)
BOTTOM VIEW

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

73E261717-REV3
SCHEMATIC PC-25
SERVICE #B02

UNLESS OTHERWISE NOTED:

K = 1,000
M = 1,000,000
CAPACITORS MORE THAN 1 = UUF = PF
CAPACITORS LESS THAN 1 = UF
INDUCTORS MORE THAN 1 = UH
RESISTORS ARE 1/8 WATT

VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS.
RECEIVER SET FOR NORMAL OPERATION WITH STRONG SIGNAL.
MEASUREMENTS MAY VARY +/-10% AT 120V AC LINE VOLTAGE.
SIGNAL WAVEFORMS TAKEN WITH KEYED RAINBOW GENERATOR SIGNAL.

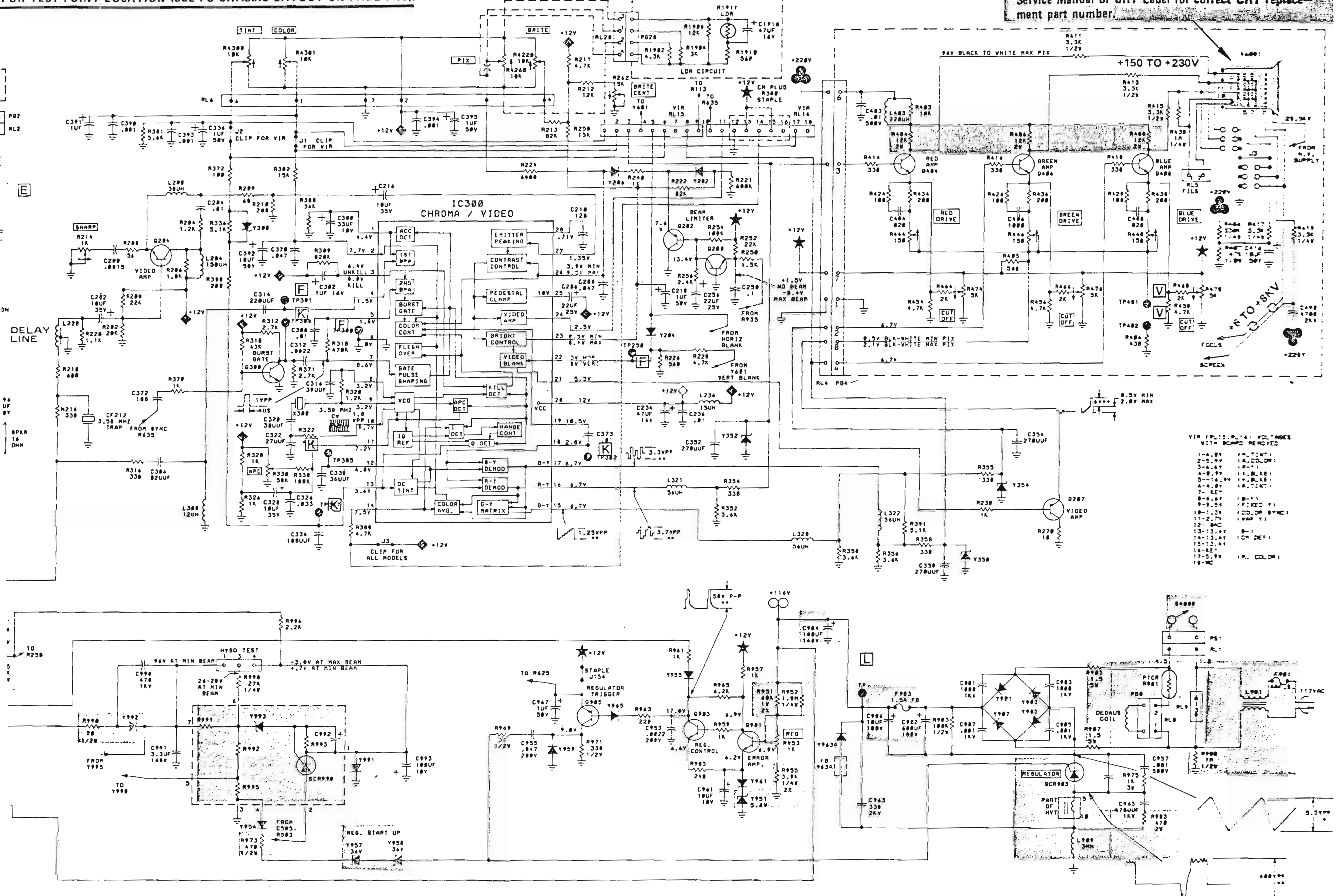
** INDICATES WAVEFORMS TAKEN AT 1/2 HORIZONTAL SWEEP RATE.
* INDICATES WAVEFORMS TAKEN AT 1/2 VERTICAL SWEEP RATE.
RL = RECEPTACLE
PG = PLUG
N.S. = NO SIGNAL

HORIZ. OUTPUT XSISTOR AND DAMPER DIODE ARE INCLUDED IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT GE CATALOG REPLACEMENT PART NUMBER EP15X218.

25PC-B MA

FOR TEST POINT LOCATION (SEE PC CHASSIS LAYOUT ON PAGE 7-10).

– NOTE –
Replace CRT (V6001) with the same type in the receiver, or factory authorized substitute only. See Model Page in Service Manual or CRT Label for correct CRT replacement part number.



B+ SOURCE VOLTAGE SYMBOLS

+12V SOURCE | +56V SOURCE | +116V SOURCE | +220V SOURCE | +12V SOURCE (IC300 PIN 20)

CHASSIS SCHEMATIC DIAGRAM

25PC–B/C/D MAIN CHASSIS REPLACEMENT PARTS LIST

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

CIRCUIT BOARD ASSEMBLIES

PART NO.	DESCRIPTION
	Main Circuit Board
EP93X392	RGB Circuit Board
EP93X454	Horiz. Heat Sink Circuit Board
EP93X462	VIR Circuit Board

CHASSIS

PARTS NOT ON CIRCUIT BOARDS

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C30	EP31X45	47uf, 25V, Elect.
C60	ES25X22	.01uf, 20%, 50V, Polyester
C90	EP31X149	10uf, 35V, Elect.
C95	EP31X149	10uf, 35V, Elect.
C232	EP31X147	47uf, +100-10%, 250V, Elect.
C4000	EP18X81	1000pf, +80-20%, 1KV, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X154	22 ohm, 5%, 1W, Carbon
R12	EP14X54	18 ohm, 5%, 1W, Carbon
R29	EP14X326	VARSISTOR-"MOV", Metal Oxide
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz. Centering

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
	EP36X451	COIL-Degaussing (2 Used)
	EP42X8	CONVERGENCE ASM.
	EP76X33	YOKE
L50.	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-75 to 300 ohm (Antenna)
	EP2X553	BRACKET-CRT Corner Mounting, Metal
	EP2X544	BRACKET-Ckt. Bd. Support, Plastic
	EP2X543	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H.V.T. Support, Plastic
	EP2X542	BRACKET-VIR Board Mounting, Plastic
	EP8X51	CABLE-Coaxial, 7" W/Phono Plugs
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-ET91 to UHF & KMP To UHF Plastic
	EP8X97	CABLE-Coaxial, VHF to UHF (Mech. Only)
	EP2X90	CLAMP-Yoke & Covn. Retainer
RL1	EP8X93	CONNECTOR-5 Pos.
RL2	EP8X90	CONNECTOR-3 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL6	EP8X66	CONNECTOR-7 Pos.
RL7	EP8X68	CONNECTOR-2 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-3 Pos. (KMP112/LMP112/SET112)
PG12	EP8X30	CONNECTOR-1 Pin
RL16A	EP8X66	CONNECTOR-7 Pos. (El. Tuning)
RL16A	EP8X92	CONNECTOR-8 Pos. (Direct)
RL17	EP8X90	CONNECTOR-5 Pos.
RL18	EP8X71	CONNECTOR-6 Pos.
RL28	EP8X42	CONNECTOR-4 Pins
RL59	EP8X43	CONNECTOR-2 Pins
PG250	EP8X43	CONNECTOR-2 Pins
	EP66X19	CORD-AC Power, Polarized, Wired In-Type
	EP3X53	CUSHION-Yoke Wedge
	EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
	EP92X102	FRAME-Rear Support, For Main Board, Plastic
SG4000	EP41X154	SPARK GAP-(On Units W/Mechanical (PC-C/D) Tuners)
	EU34X192	SOCKET-Pilot Light
	EP90X3	Wire Tie

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	ES25X21	.15uf, 20%, 50V, Polyester (PC-C/D)
C105	EP31X138	.47uf, 20%, 50V, Elect. (PC-B Only)
C106	EP31X159	470uf, 20%, 16V, Elect.
C107	EP18X187	27pf, 5%, 50V, Cer. Disc
C108	EP18X191	68pf, 5%, 50V, Cer. Disc
C109	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C110	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C113	EP18X197	.01uf, 10%, 50V, SHiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C115	EP18X101	13pf, 5%, 50V, NPO, Cer. Disc
C116	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C117	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C118	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C119	EP31X170	4.7uf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C124	EP18X186	22pf, 10%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Elect.
C126	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C127	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C135	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X220	1000pf, 10%, 500V, Cer. Disc
C137	EP18X220	1000pf, 10%, 500V, Cer. Disc
C139	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C142	EP18X259	1000pf, 20%, 500V, HiK, Cer. Disc
C180	EP18X189	47pf, 5%, 50V, Cer. Disc
C182	EP18X189	47pf, 5%, 50V, Cer. Disc
C183	EP31X149	10uf, 20%, 35V, Elect.
C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C185	EP31X149	10uf, 20%, 35V, Elect.
C186	EP25X130	.022uf, 10%, 50V, Polyester
C187	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C188	EP25X146	.033uf, 10%, 200V, Mylar
C189	EP31X149	10uf, 20%, 35V, Elect.
C190	EP31X149	10uf, 20%, 35V, Elect.
C191	EP18X170	.015uf, 10%, 25V, Cer. Disc
C192	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Dis.
C193	EP18X113	150pf, 5%, 50V, NPO, Cer. Disc
C194	EP31X152	2.2uf, +50-20%, 250V, Elect.
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
C196	EP31X153	22uf, +50-10%, 160V, Elect.
C197	EP31X170	4.7uf, 20%, 35V, Elect.
C198	EP31X149	10uf, 20%, 35V, Elect.
C199	EP18X169	.01uf, 30%, 25V, Cer. Disc
C200	EP18X274	1500pf, 10%, 50V, SHiK, Cer. Disc
C202	EP31X149	10uf, 10%, 35V, Elect.
C204	EP18X169	.01uf, 30%, 25V, Cer. Disc
C206	EP31X172	22uf, 20%, 25V, Elect.
C208	EP18X170	4.7uf, 20%, 35V, Elect. (PC-D Only)
C208	EP18X167	.047uf, 20%, 50V, HiK, Cer. Disc (PC-B/C)
C210	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	10uf, 10%, 35V, Elect.
C218	EP31X166	1uf, 20%, 50V, Elect.
C234	EP31X88	47uf, 10%, 16V, Elect.
C236	EP18X169	.01uf, 30%, 25V, Elect.
C240	ES18X56	18pf, 10%, 500V, Cer. Disc
C250	EP25X77	.1uf, 20%, 50V, Polyester
C256	EP31X172	22uf, 20%, 25V, Elect.
C300	EP31X175	33uf, +50-20%, 10V, Elect.
C302	EP31X178	1uf, 10%, 16V, Tantalum
C306	EP18X122	82pf, 5%, 50V, Cer. Disc
C308	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C312	EP18X198	2200pf, 30%, 25V, HiK, Cer. Disc
C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	30pf, 5%, 50V, Cer. Disc
C322	EP18X187	27pf, 5%, 50V, Cer. Disc
C326	EP25X124	.033uf, 20%, 50V, Polyester
C328	EP31X149	10uf, 20%, 35V, Elect.
C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	100pf, 5%, 50V, Cer. Disc
C336	EP31X116	1uf, 20%, 50V, Elect.
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C370	EP25X87	.047uf, 20%, 50V, Polyester
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc
C390	EP18X220	1000pf, +80-20%, 500V, HiK Cer Disc
C391	EP31X166	1uf, 20%, 50V, Elect.
C392	EP31X149	10uf, 20%, 35V, Elect.
C393	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
C394	EP18X220	1000pf, +80-20%, 500V, HiK Cer Disc
C395	EP31X166	1uf, 20%, 50V, Elect.
C501	EP31X170	4.7uf, 20%, 35V, Elect. (PC-C/D)
C501	EP31X45	47uf, 20%, 16V, Elect. (PC-B Only)
C503	EP25X149	5600pf, 5%, 100V, Polypropylene
C505	EP31X178	1uf, 10%, 16V, Tantalum
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047uf, 10%, 50V, Polyester
C509	EP25X127	.015uf, 10%, 50V, Polyester
C512	EP25X95	.22uf, 10%, 50V, Polyester

REF. NO.	PART NO.
C513	EP31X149
C514	EP18X197
C514	EP18X217
C515	EP25X94
C517	EP25X87
C521	EP25X80
C521	EP25X160
C523	EP25X77
C601	EP25X171
C603	EP31X149
C605	EP18X229
C607	EP31X141
C609	EP31X166
C611	EP25X130
C613	EP18X286
C614	EP31X172
C614	EP31X11
C615	EP31X151
C617	EP18X220
C617	EP18X264
C619	EP31X154
C621	EP31X169
C623	EP31X178
C701	EP25X110
C703	EP18X217
C705	EP25X148
C706	EP25X146
C901	EP18X285
★ C902	EP31X165
★ C902	EP31X158
C903	EP18X285
★ C904	EP31X109
C905	EP18X285
★ C906	EP31X156
C907	EP18X285
C921	EU22X76
C923	EP18X279
C924	EP18X264
C925	EP31X159
C927	EP18X268
C929	EP18X81
C931	EP31X157
C933	EP25X89
C935	EP18X279
C937	EP18X81
C938	EP18X217
C939	EP31X155
C941	EP18X132
C943	EP31X45
C945	EU22X212
C947	EP18X118
C953	EP25X161
C955	EP20X20
C957	EP18X81
C959	EP18X266
C961	EP31X149
C963	ES18X13
C965	EP18X11
C967	EP31X166
C990	EP18X279
C991	EP31X160
C993	EP31X169

REF. NO.	PART NO.
R101	EP14X187
R102	EP14X180
R103	ES14X62
R104	ES14X57
R105	ES14X56
R108	Common
R108	EP14X133
R109	ES14X58

10uf, 20%, 35V, Elect.
1000pf, 10%, 50V, SHiK, Cer. Disc (PC-C/D)
330pf, 10%, 50V, SHiK, Cer. Disc (PC-B Only)
5600pf, 10%, 50V, Polyester
.047uf, 10%, 50V, Polyester (PC-B Only)
.015uf, 10%, 50V, Polyester (PC-D Only)
8200pf, 10%, 50V, Polyester (PC-B/C)
.1uf, 20%, 50V, Polyester
.033uf, 10%, 50V, Polyester
10uf, 20%, 35V, Elect.
6800pf, 10%, 50V, SHiK, Cer. Disc
220uf, 20%, 16V, Elect.
1uf, 20%, 50V, Elect.
.022uf, 10%, 50V, Polyester
180pf, 5%, 500V, Cer. Disc
22uf, 20%, 25V, Elect. (PC-C/D)
4.7uf, 20%, 50V, Elect. (PC-B/C)
2.7uf, 20%, 160V, Elect.
1000pf, 20%, 500V, HiK, Cer. Disc (PC-D Only)
4700pf, 20%, 500V, HiK, Cer. Disc (PC-B/C)
470uf, 20%, 10V, Elect.
100uf, 20%, 50V, Elect.
1uf, 10%, 35V, Tantalum
3300pf, 10%, 200V, Mylar
330pf, 10%, 500V, SHiK, Cer. Disc
.027uf, 10%, 100V, Polyester
.033uf, 20%, 200V, Mylar
1000pf, +100-0%, 1KV, Cer. Disc
680uf, 20%, 180V, Elect. (PC-D Only)
330uf, +50-20%, 180V, Elect. (PC-B/C)
1000pf, +100-0%, 1KV, Cer. Disc
100uf, 10%, 160V, Elect.
1000pf, +100-0%, 1KV, Cer. Disc
10uf, +50-20%, 180V, Elect.
1000pf, +100-0%, 1KV, Cer. Disc
1000pf, 20%, 500V, HiK, Cer. Disc
470pf, 20%, 1KV, HiK, Cer. Disc
4700pf, 20%, 500V, HiK, Cer. Disc
470uf, 20%, 25V, Elect
150pf, 20%, 1KV, HiK, Cer. Disc
1000pf, 20%, 500V, Cer. Disc
220uf, 20%, 100V, Elect
.047uf, 20%, 300V, Mylar
470pf, 20%, 1KV, HiK, Cer. Disc
1000pf, 20%, 500V, Cer. Disc
330pf, 10%, 500V, Cer. Disc
4.7uf, +50-20%, 160V, Elect
8200pf, 10%, 500V, Cer. Disc
47uf, 20%, 16V, Elect.
6800pf, 20%, 500V, Cer. Disc
.1uf, 10%, 25V, Cer. Disc
1800pf, 10%, 200V, Mylar
.047uf, 10%, 200V, Mylar
1000pf, 20%, 500V, Cer. Disc
270pf, 20%, 1KV, SHiK, Cer. Disc
10uf, 20%, 35V, Elect.
330pf, 20%, 2KV, Cer. Disc
470pf, 10%, 1KV, Cer. Disc
1uf, 20%, 50V, Elect.
470pf, 20%, 1KV, HiK, Cer. Disc
3.3uf, +50-10%, 160V, Elect.
100uf, 20%, 10V, Elect.

ESISTORS

DESCRIPTION
100 ohm, 5%, 1/8W, Carbon
5.6K ohm, 5%, 1/8W, Carbon
1.5K ohm, 5%, 1/8W, Carbon
390 ohm, 5%, 1/8W, Carbon
33 ohm, 5%, 1/8W, Carbon
270K ohm, 5%, 1/8W, Carbon (PC-C/D)
470K ohm, 5%, 1/8W, Carbon (PC-B Only)
470 ohm, 5%, 1/8W, Carbon

	R111	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
	R112	EP14X303	470 ohm, 5%, 1/8W, Carbon
	R113	Common	510 ohm, 5%, 1/8W, Carbon (PC-D Only)
	R113	EP14X284	1K ohm, 5%, 1/8W, Carbon (PC-B/C)
	R114	Common	390 ohm, 5%, 1/8W, Carbon (PC-D Only)
	R114	EP14X303	470 ohm, 5%, 1/8W, Carbon (PC-B/C)
	R115	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
	R117	Common	220 ohm, 5%, 1/8W, Carbon
	R118	Common	9.1K ohm, 5%, 1/8W, Carbon
	R119	EP14X119	68K ohm, 5%, 1/8W, Carbon
	R121	EP14X125	47K ohm, 5%, 1/8W, Carbon
	R122	EP14X182	68 ohm, 5%, 1/8W, Carbon
	R123	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
	R125	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
	R126	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
	R128	EP14X185	120K ohm, 5%, 1/8W, Carbon
	R129	ES14X59	560 ohm, 5%, 1/8W, Carbon
	R130	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
	R131	EP14X288	18K ohm, 5%, 1/8W, Carbon
	R133	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R134	Common	120 ohm, 5%, 1/4W, Carbon
	R135	Common	220 ohm, 5%, 1/4W, Carbon
	R136	EP14X239	750 ohm, 5%, 1/8W, Carbon
	R180	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R181	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
	R182	EP14X284	1K ohm, 5%, 1/8W, Carbon
	R183	EP14X284	1K ohm, 5%, 1/8W, Carbon
	R186	Common	300 ohm, 5%, 1/8W, Carbon
	R188	EP14X271	82K ohm, 5%, 1/8W, Carbon
	R190	Common	62K ohm, 5%, 1/8W, Carbon
	R191	ES14X71	1K ohm, 5%, 1/8W, Carbon
*	R192	EP14X329	200 ohm, 5%, 1/2W, Carbon Fl. Proof
	R193	Common	36K ohm, 5%, 1/4W, Carbon
	R194	EP14X103	10K ohm, 5%, 1/8W, Carbon
	R195	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
	R198	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
	R200	ES14X69	56 ohm, 5%, 1/8W, Carbon
	R202	EP14X285	20K ohm, 5%, 1/8W, Carbon
	R204	Common	1.2K ohm, 5%, 1/8W, Carbon
	R206	EP14X190	1.8K ohm, 5%, 1/8W, Carbon
	R208	EP14X303	22K ohm, 5%, 1/8W, Carbon
	R209	EP14X182	68 ohm, 5%, 1/8W, Carbon
	R210	EP14X329	200 ohm, 5%, 1/8W, Carbon
	R211	Common	4.3K ohm, 5%, 1/8W, Carbon (PC-D Only)
	R211	EP14X249	4.7K ohm, 5%, 1/8W, Carbon (PC-B/C)
	R212	EP14X284	12K ohm, 5%, 1/8W, Carbon
	R213	EP14X140	330K ohm, 5%, 1/8W, Carbon
	R213	EP14X271	82K ohm, 5%, 1/8W, Carbon (PC-B/C)
	R216	Common	330 ohm, 5%, 1/8W, Carbon
	R218	EP14X283	680 ohm, 5%, 1/8W, Carbon
	R220	EP14X189	1.1K ohm, 5%, 1/8W, Carbon
	R221	EP14X293	680K ohm, 5%, 1/8W, Carbon
	R222	Common	150K ohm, 5%, 1/8W, Carbon (PC-D Only)
	R222	EP14X271	82K ohm, 5%, 1/8W, Carbon (PC-B/C)
	R224	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
	R226	ES14X59	560 ohm, 5%, 1/8W, Carbon
	R228	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
	R230	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R234	EP14X288	18K ohm, 5%, 1/8W, Carbon
	R240	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R250	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
	R252	EP14X303	22K ohm, 5%, 1/8W, Carbon
	R254	EP14X105	100K ohm, 5%, 1/8W, Carbon
	R256	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
	R258	EP14X285	15K ohm, 5%, 1/8W, Carbon
	R270	EP14X284	10 ohm, 5%, 1/8W, Carbon
	R300	Common	36K ohm, 5%, 1/8W, Carbon
	R302	EP14X285	15K ohm, 5%, 1/8W, Carbon
	R310	EP14X133	470K ohm, 5%, 1/8W, Carbon
	R312	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
	R316	EP14X128	330 ohm, 5%, 1/8W, Carbon
	R318	EP14X309	39K ohm, 5%, 1/8W, Carbon (PC-C/D)
	R318	Common	43K ohm, 5%, 1/8W, Carbon (PC-B Only)

	R320	Common	1.2K ohm, 5%, 1/8W, Carbon
	R322	ES14X58	470 ohm, 5%, 1/8W, Carbon
	R326	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R328	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R336	Common	5.1K ohm, 5%, 1/8W, Carbon
	R338	EP14X105	100K ohm, 5%, 1/8W, Carbon
	R350	Common	3.6K ohm, 5%, 1/8W, Carbon
	R352	Common	3.6K ohm, 5%, 1/8W, Carbon
	R354	EP14X128	330 ohm, 5%, 1/8W, Carbon
	R355	EP14X128	330 ohm, 5%, 1/8W, Carbon
	R356	Common	3.6K ohm, 5%, 1/8W, Carbon
	R358	EP14X128	330 ohm, 5%, 1/8W, Carbon
	R370	EP14X284	1K ohm, 5%, 1/8W, Carbon
	R371	EP14X304	2.7K ohm, 5%, 1/8W, Carbon (PC-B Only)
	R372	Common	300 ohm, 5%, 1/8W, Carbon (PC-D Only)
	R372	EP14X187	100 ohm, 5%, 1/8W, Carbon (PC-B/C)
	R380	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
	R381	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
	R389	Common	820K ohm, 10%, 1/8W, Carbon
	R390	Common	200 ohm, 5%, 1/8W, Carbon (PC-B/C)
	R391	Common	5.1K ohm, 5%, 1/8W, Carbon
	R503	EP14X323	6.8K ohm, 5%, 3W, Flame Proof
	R506	Common	5.1K ohm, 5%, 1/8W, Carbon
	R507	Common	11K ohm, 5%, 1/8W, Carbon
	R508	EP14X188	15 ohm, 5%, 1/8W, Carbon
	R509	EP14X119	68K ohm, 5%, 1/8W, Carbon
	R511	EP14X103	10K ohm, 5%, 1/8W, Carbon
	R513	EP14X103	10K ohm, 5%, 1/4W, Carbon
	R515	EP14X12	1 meg ohm, 5%, 1/8W, Carbon
	R516	Common	150K ohm, 5%, 1/8W, Carbon
	R517	Common	110K ohm, 5%, 1/8W, Carbon (PC-B Only)
	R518	Common	240K ohm, 5%, 1/8W, Carbon
	R519	Common	62K ohm, 5%, 1/8W, Carbon
	R521	EP14X187	100 ohm, 5%, 1/8W, Carbon
	R523	ES14X57	390 ohm, 5%, 1/8W, Carbon
	R525	EP14X304	2.7K ohm, 5%, 1/8W, Carbon (PC-B Only)
	R527	EP14X180	5.6K ohm, 5%, 1/8W, Carbon (PC-B Only)
	R529	Common	270 ohm, 5%, 1/8W, Carbon (PC-B Only)
	R531	ES14X56	33 ohm, 5%, 1/8W, Carbon
	R535	Common	51K ohm, 5%, 1/8W, Carbon
	R537	EP14X125	47K ohm, 5%, 1/8W, Carbon
	R601	EP14X285	15K ohm, 5%, 1/8W, Carbon
	R603	ES14X51	47 ohm, 5%, 1/8W, Carbon
	R605	EP14X103	10K ohm, 5%, 1/8W, Carbon
	R609	EP14X284	12K ohm, 5%, 1/8W, Carbon
	R611	EP14X128	330 ohm, 5%, 1/8W, Carbon
	R613	EP14X243	2.2K ohm 5%, 1/8W, Carbon
	R615	EP14X285	20K ohm, 5%, 1/8W, Carbon
	R617	Common	220 ohm, 5%, 1/8W, Carbon
	R621	EP14X272	6.8 ohm, 5%, 1W, Metal Oxide
	R623	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
	R625	Common	220 ohm, 5%, 1/8W, Carbon
	R627	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
	R631	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
	R633	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
	R635	Common	180 ohm, 5%, 1/8W, Carbon
	R637	EP14X187	100 ohm, 5%, 1/8W, Carbon
	R639	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R641	EP14X188	15 ohm, 5%, 1/2W, Carbon
*	R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
*	R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
*	R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
	R649	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
	R651	Common	10 ohm, 5%, 1/2W, Carbon
*	R653	EP14X220	180 ohm, 5%, 2W, Metal Oxide
	R655	Common	2.7K ohm, 5%, 1/2W, Carbon
*	R702	EP14X328	1.2K ohm, 5%, 3W, Flame Proof
*	R703	EP14X262	.47 ohm, 5%, 2W, Metal Oxide
*	R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
*	R900	EP14X106	1 meg ohm, 5%, 1/2W, Carbon
*	R901	EP14X330	Degaussing
	R903	EP14X105	100K ohm, 5%, 1/2W, Carbon
*	R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
*	R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound

*	R921	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
	R923	ES14X79	1 ohm, 5%, 1/2W, Flame Proof
*	R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
*	R927	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
	R929	EP14X266	.39 ohm, 5%, 1W, Metal Oxide
	R932	Common	120 ohm, 5%, 1/4W, Carbon
	R932A	Common	120 ohm, 5%, 1/4W, Carbon
	R933	Common	220K ohm, 5%, 1/2W, Carbon (PC-C/D)
	R933	ES14X62	1.5K ohm, 5%, 1/2W, Carbon (PC-B Only)
*	R935	ES14X62	1.5K ohm, 5%, 1/2W, Carbon (PC-C/D)
*	R935	EP14X131	1.8K ohm, 5%, 1/2W, Carbon (PC-B Only)
*	R936	EU13X4	1K ohm, 5%, 1/2W, Carbon
*	R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
	R939	EP14X187	100 ohm, 5%, 1/2W, Carbon
*	R941	EP14X54	18 ohm, 5%, 2W, Metal Oxide
	R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
	R952	Common	1.8 meg, ohm, 5%, 1/4W, Carbon
	R954	EP14X105	100K ohm, 5%, 1/4W, Carbon
	R955	EP14X252	3.9K ohm, 2%, 1/8W, Carbon
	R957	EP14X284	1K ohm, 5%, 1/8W, Carbon
	R959	EP14X284	1K ohm, 5%, 1/8W, Carbon
	R961	ES14X71	1K ohm, 5%, 1/8W, Carbon
	R963	Common	220 ohm, 5%, 1/8W, Carbon
	R965	Common	6.2K ohm, 5%, 1/8W, Carbon
	R969	ES14X56	33 ohm, 5%, 1/2W, Carbon
	R971	EP14X128	330 ohm, 5%, 1/2W, Carbon
	R973	ES14X58	470 ohm, 5%, 1/2W, Carbon
*	R975	EP14X275	1K ohm, 10%, 3W, Wirewound
	R981	EP14X258	3 ohm, 10%, 7W, Wirewound
*	R983	EP14X368	1.6Kohm, 5%, 1W, Metal Oxide (PC-D Only)
*	R983	EP14X321	470ohm, 5%, 2W, Metal Oxide (PC-B/C)
	R985	Common	240 ohm, 5%, 1/8W, Carbon
	R990	EP14X269	20 ohm, 5%, 1/2W, Carbon
	R996	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
	R998	Common	27K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R116	EP49X463	RF/AFC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X464	Sharpness. 1K ohm, 20%
R262	EP49X463	Brightness, 5K ohm, 20%
R330	EP49X465	APC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg., 1K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
*	EP62X167	HVSD-Thick Film
IC101	EP84X213	VIF/Det/AFC
IC190	EP84X216	IF/Sound
IC300	EP84X221	Chroma/Video
IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V, 3 Ter. Regulator

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
SCR903	EP15X217	SCR Regulator, PNP
Q105	EP15X104	Pre Amp, HF, BiPolar
Q110	EP15X87	Video Emitter Follower NPN, Silicon
Q190	EP15X19	Audio Output, NPN, Silicon
Q192	EP15X19	Audio Output, NPN, Silicon
Q200	EP15X88	Regulator, NPN, Silicon
Q202	EP15X48	Beam Limiter, PNP, Silicon
Q204	EP15X88	Video Amp, NPN, Silicon
Q207	EP15X57	Video Amp, PNP, Silicon
Q300	EP15X226	Burst Gate, NPN, Silicon

19PC–J MAIN CHASSIS REPLACEMENT PARTS LIST

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

CIRCUIT BOARD ASSEMBLIES

PART NO.	DESCRIPTION
	Main Circuit Board
EP93X550	RGB Circuit Board
EP93X536	Horiz. Heat Sink Circuit Board
EP93X462	VIR Circuit Board

CHASSIS

PARTS NOT ON CIRCUIT BOARDS

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C30	EP31X45	47uf, 10%, 35V, Elect.
C60	ES25X22	.01uf, 20%, 50V, Polyester
C90	EP31X161	4.7uf, 20%, 16V, Bi Polar, Elect.
C232	EP31X147	47uf, +100-10%, 250V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X154	22 ohm, 5%, 1W, Carbon
R12	EP14X54	18 ohm, 5%, 1W, Carbon
R29	EP14X326	VARSISTOR-"MOV", Metal Oxide
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R234	EP14X296	100 ohm, 5%, 1/2W, Metal Oxide

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	HORIZ. CENTERING-500 ohm, 10%

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	NPN, Silicon

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
	EP36X445	COIL-Degaussing
	EP42X8	CONVERGENCE ASM.
	EP76X37	YOKE
L50	ES36X82	CHOKE-220uh, 10%
L1901	EP36X443	COIL-Width
PT01	EP88X42	TRANSFORMER-Power
★T701	EP77X64	TRANSFORMER-H.V.
★T1901	EP36X444	COIL-Pincushion Asm.
	EP41X132	RELAY
	EP88X46	TRANSFORMER-For Tuner Control Bd.

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP60X13	AIR GAP-For H. V. T.
	EP90X40	ADAPTOR-75 to 300 ohm (Antenna)
	EP3X57	ANODE CLIP
	EP8X36	ANODE-CRT Connector
	EP2X544	BRACKET-Ckt. Bd. Support, Plastic
	EP2X546	BRACKET-CRT Ground Terminal
	EP2X543	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H.V.T. Support, Plastic
	EP2X271	BRACKET-Rib Boss For Cabinet Front
	EP2X542	BRACKET-VIR Board Support, Plastic
	EP2X548	BRACKET-Anode Lead Dress
	EP8X51	CABLE-Coaxial, 7" W/Phono Plugs
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-ET91 to UHF & KMP To UHF
	EP2X90	CLAMP-Yoke & Covn. Retainer
	ES3X29	CLIP-Antenna Terminal
	EP3X4	CLIP-Upper CRT Bkt—Tuner
	EP2X545	CLIP-Chassis Mounting (Uses 2)
	EP2X548	CLIP-Anode Retainer, Plastic
	EP3X57	CLIP-Anode Retainer
RL1	EP8X93	CONNECTOR-5 Pos.
RL2	EP8X90	CONNECTOR-3 Pos.
RL2A	EP8X30	CONNECTOR-1 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL6	EP8X66	CONNECTOR-7 Pos.
RL7	EP8X68	CONNECTOR-2 Pos.
RL9/RL9A	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-3 Pos.
PG/RL12	EP8X30	CONNECTOR-1 Pin
RL16A	EP8X66	CONNECTOR-7 Pos.
RL17	EP8X90	CONNECTOR-5 Pos.
RL28	EP8X42	CONNECTOR-4 Pins
RL59	EP8X43	CONNECTOR-2 Pins
RL60	EP8X43	CONNECTOR-2 Pins
RL232	EP8X90	CONNECTOR-5 Pos.
RL241	EP8X135	CONNECTOR-16 Pos.
RL244/RL244A	EP8X91	CONNECTOR-9 Pos.
PG/RL250	EP8X43	CONNECTOR-2 Pins
RL251	EP8X92	CONNECTOR-8 Pos.
	★EP66X19	CORD-AC Power, Polarized, Wired In-Type
	EP3X53	CUSHION-Yoke Wedge
	EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
	EP92X102	FRAME-Rear Support, For Main Board, Plastic
★F901	EP10X19	FUSE-4 amp, 250V, Snap-In, Fast Acting
★F903	EP10X57	FUSE-1.25 amp, 250V, Snap-In, Med Acting
	EP93X544	REMOTE POWER RELAY BOARD-Bare
	EP34X65	SOCKET-CRT
SG4000	EP41X145	SPARK GAP-(On Units W/Mechanical Tuners)
	EP2X534	SPRING-Ground, CRT (Uses 2)
	EP2X535	STRAPS-Degaussing Coil Adjust
SW5008	EP39X146	SWITCH-Cable Select, Slide Type
	EP90X3	Wire Tie

MAIN CIRCUIT BOARD PC-J 19"

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C104	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	EP25X187	.15uf, 20%, 50V, Polyester
C106	EP31X31	470uf, 20%, 16V, Elect.
C107	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C110	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C113	EP18X197	.01uf, 10%, 50V, SHiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, NPO, Cer. Disc
C115	EP18X101	13pf, 5%, 50V, NPO, Cer. Disc
C116	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C117	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C118	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C119	EP31X179	4.7uf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C124	EP18X185	18pf, 5%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Elect.
C126	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C127	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C135	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C137	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C139	EP18X259	1 D
C142	EP18X259	1 D
C180	EP18X189	4
C182	EP18X189	4
C183	EP31X149	1
C184	EP22X32	.(
C185	EP31X149	1
C186	EP25X183	.(
C187	EP31X177	4
C188	EP25X165	4
C189	EP31X149	1(
C190	EP31X149	1(
C191	EP25X13	.0
C192	EP31X45	4
C193	EP18X113	1
C194	EP31X188	2
C195	EP18X182	5.
C197	EP31X179	4.
C198	EP31X149	10
C199	EP18X169	.0
C200	EP18X274	15
C201	EP18X202	22
C202	EP31X149	10
C204	EP18X297	15
C206	EP31X172	22
C208	EP31X138	.47
C210	EP18X113	15
C216	EP31X149	10
C218	EP31X166	1u
C234	EP31X45	47
C236	EP18X194	10
C240	ES18X56	18
C250	EP25X77	.1u
C256	EP31X172	22
C300	EP31X175	33
C302	EP31X178	1uf
C306	EP18X280	82
C308	EP22X32	.01 Dis
C312	EP18X198	220 Dis
C314	EP18X202	220
C316	EU18X9	39p
C320	EP18X219	30p
C322	EP18X32	36p
C326	EP25X124	.03
C328	EP31X149	10u
C330	EP18X32	36p
C334	EP18X194	100
C336	EP31X166	1uf,
C350	EP18X203	270
C352	EP18X203	270
C354	EP18X203	270
C370	EP25X87	.047
C372	EP18X298	180
C373	EP18X169	.01u
C390	EP18X220	1000 Disc
C391	EP31X166	1uf,
C392	EP31X149	10uf
C393	EP18X259	1000 Disc
C394	EP18X285	1000 Disc

pf, 10%, 500V, SHiK, Cer.

pf, 10%, 500V, SHiK, Cer.

, 5%, 50V, NPO, Cer. Disc
, 5%, 50V, NPO, Cer. Disc
, +80-20%, 35V, Elect.
f, 20%, 50V, HiK, Cer. Disc
, 20%, 35V, Elect.
uf, 10%, 50V, Polyester
uf, 20%, 50V, Elect.
pf, 10%, 50V, Polyester
, 20%, 35V, Elect.
, 20%, 35V, Elect.
uf, 10%, 50V, Polyester
, 20%, 35V, Elect.
pf, 5%, 50V, NPO, Cer. Disc
uf, 20%, 25V, Elect.
f, 10%, 50V, NPO, Cer. Disc
f, 20%, 35V, Elect.
, 20%, 35V, Elect.
f, 30%, 25V, Cer. Disc
pf, 10%, 50V, SHiK, Cer. Disc
pf, 10%, 50V, HiK, Cer. Disc
, 10%, 35V, Elect.
pf, 10%, 50V, HiK, Cer. Disc
, 20%, 25V, Elect.
f, 20%, 50V, Elect.
uf, 5%, 50V, NPO, Cer. Disc
10%, 35V, Elect.
20%, 50V, Elect.
10%, 10V, Elect.
f, 5%, 50V, N750, Cer. Disc
10%, 500V, N750, Cer. Disc
20%, 50V, Polyester
20%, 25V, Elect.
+50-20%, 10V, Elect.
10%, 16V, Tantalum
5%, 50V, N220, Cer. Disc
+80-20%, 50V, HiK, Cer.

pf, 30%, 25V, SSHiK, Cer.

10%, 50V, HiK, Cer. Disc
5%, 50V, NPO, Cer. Disc
5%, 50V, NPO, Cer. Disc
5%, 50V, NPO, Cer. Disc
, 20%, 50V, Polyester
20%, 35V, Elect.
5%, 50V, NPO, Cer. Disc
5%, 50V, N750, Cer. Disc
0%, 50V, Elect.
10%, 50V, HiK, Cer. Disc
10%, 50V, HiK, Cer. Disc
10%, 50V, HiK, Cer. Disc
20%, 50V, Polyester
10%, 50V, HiK, Cer. Disc
30%, 25V, SSHiK, Cer. Disc
, +80-20%, 500V, HiK Cer

%, 50V, Elect.
0%, 35V, Elect.
10%, 500V, SHiK, Cer.

+100-0%, 500V, HiK Cer.

C395	EP31X166	1uf, 20%, 50V, Elect.
C501	EP31X179	4.7uf, 20%, 35V, Elect.
C503	EP25X149	5600pf, 5%, 100V, Polypropylene
C505	EP31X178	1uf, 10%, 16V, Tantalum
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047uf, 10%, 50V, Polyester
C509	EP25X80	.015uf, 10%, 50V, Polyester
C513	EP31X149	10uf, 20%, 35V, Elect.
C514	EP22X5	680pf, 10%, 50V, Cer. Disc
C515	EP31X166	1uf, 20%, 50V, Elect.
C517	EP25X183	.022uf, 10%, 50V, Polyester
C521	EP25X80	.015uf, 10%, 50V, Polyester
C523	EP25X77	.1uf, 20%, 50V, Polyester
C601	EP25X171	.033uf, 10%, 50V, Polyester
C603	EP31X149	10uf, 20%, 35V, Elect.
C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Disc
C607	EP31X188	220uf, 20%, 16V, Elect.
C609	EP31X166	1uf, 20%, 50V, Elect.
C611	EP25X183	.022uf, 10%, 50V, Polyester
C613	EP18X286	180pf, 5%, 500V, N750, Cer. Disc
C614	EP31X172	22uf, 20%, 25V, Elect.
C615	EP31X94	2.7uf, 20%, 160V, Elect.
C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C619	EP31X159	470uf, 20%, 10V, Elect.
C621	EP31X169	100uf, 20%, 50V, Elect.
C623	EP31X178	1uf, 10%, 35V, Tantalum
C701	EP25X110	3300pf, 10%, 200V, Mylar
C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
C705	EP25X148	.027uf, 10%, 100V, Polyester
C706	EP25X146	.033uf, 20%, 200V, Mylar
C901	EP18X299	1000pf, +100-0%, 1KV, Cer. Disc
★C902	EP31X66	330uf, 20%, 180V, Elect.
C903	EP18X299	1000pf, +100-0%, 1KV, Cer. Disc
★C904	EP31X109	100uf, 10%, 160V, Elect.
C905	EP18X299	1000pf, +100-0%, 1KV, Cer. Disc
★C906	EP31X156	10uf, +50-20%, 180V, Elect.
C907	EP18X299	1000pf, +100-0%, 1KV, Cer. Disc
C921	EP18X81	1000pf, 20%, 500V, HiK, Cer. Disc
C923	EP18X279	470pf, 20%, 1KV, Cer. Disc
C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C925	EP31X159	470uf, 20%, 25V, Elect
C927	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C929	EP18X81	1000pf, 20%, 500V, Cer. Disc
C931	EP31X157	220uf, 20%, 100V, Elect
C933	EP25X89	.047uf, 20%, 300V, Mylar
C935	EP18X279	470pf, 20%, 1KV, Cer. Disc
C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
C938	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
C939	EP31X155	4.7uf, +50-20%, 160V, Elect
C941	EP18X132	8200pf, 10%, 500V, SHiK, Cer. Disc
C943	EP31X45	47uf, 20%, 10V, Elect.
C944	EP25X95	.22uf, 10%, 50V, Polyester
C945	EP31X166	1uf, 20%, 50V, Elect.
C947	EP18X118	.1uf, 10%, 25V, Cer. Disc
C953	EP25X161	1800pf, 10%, 200V, Mylar
C955	EP20X20	.047uf, 10%, 200V, Mylar
C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
C959	EP18X266	270pf, 20%, 1KV, SHiK, Cer. Disc
C961	ES31X62	100uf, 20%, 10V, Elect.
C963	ES18X13	330pf, 20%, 2KV, Cer. Disc
C965	EP18X11	470pf, 10%, 1KV, Cer. Disc
C967	EP31X166	1uf, 20%, 50V, Elect.
C990	EP18X279	470pf, 20%, 1KV, Cer. Disc
C991	EP31X160	3.3uf, +50-10%, 160V, Elect.
C993	EP31X169	100uf, 20%, 10V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	ES14X70	100 ohm, 5%, l/4W, Carbon
R102	EP14X379	5.6K ohm, 5%, l/4W, Carbon
R103	ES14X62	1.5K ohm, 5%, l/4W, Carbon
R104	ES14X57	390 ohm, 5%, l/4W, Carbon
R105	ES14X56	33 ohm, 5%, l/4W, Carbon
R108	EP14X97	270K ohm, 5%, l/4W, Carbon
R109	EP14X318	220 ohm, 5%, l/8W, Carbon
R113	EP14X373	510 ohm, 5%, l/8W, Carbon
R114	ES14X57	390 ohm, 5%, l/4W, Carbon
R115	EP14X407	3.9K ohm, 5%, l/8W, Carbon
R117	EP14X318	220 ohm, 5%, l/4W, Carbon
R118	EP14X370	9.1K ohm, 5%, l/4W, Carbon
R119	EP14X119	68K ohm, 5%, l/4W, Carbon
R121	EP14X131	47K ohm, 5%, l/4W, Carbon
R122	EP14X182	68 ohm, 5%, l/4W, Carbon
R123	EP14X304	2.7K ohm, 5%, l/8W, Carbon
R125	EP14X243	2.2K ohm, 5%, l/4W, Carbon
R126	EP14X184	2.4K ohm, 5%, l/8W, Carbon
R128	EP14X185	120K ohm, 5%, l/4W, Carbon
R129	ES14X59	560 ohm, 5%, l/4W, Carbon
R130	ES14X62	1.5K ohm, 5%, l/4W, Carbon
R131	EP14X414	18K ohm, 5%, l/4W, Carbon
R133	ES14X71	1K ohm, 5%, l/4W, Carbon
R134	EP14X378	120 ohm, 5%, l/4W, Carbon
R135	EP14X318	220 ohm, 5%, l/4W, Carbon
R136	EP14X385	750 ohm, 5%, l/8W, Carbon
R140	EP14X249	4.7K ohm, 5%, 1/8W, Carbon
R180	ES14X71	IK ohm, 5%, l/4W, Carbon
R181	EP14X442	160 ohm, 5%, 5W, Wirewound
R182	EP14X284	1K ohm, 5%, l/8W, Carbon
R183	EP14X284	IK ohm, 5%, l/8W, Carbon
R184A	EP14X115	430 ohm, 5%, 2W, Carbon
R184B	EP14X228	390 ohm, 5%, 2W, Metal Oxide
R185	ES14X71	1K ohm, 5%, 1/4W, Carbon
R186	ES14X61	820 ohm, 5%, l/4W, Carbon
R187	ES14X71	1K ohm, 5%, 1/4W, Carbon
R188	EP14X434	39 ohm, 5%, l/4W, Carbon
R189	ES14X80	2.2 ohm, 5%, 1/2W, Carbon
R190	ES14X80	2.2 ohm, 5%, l/2W, Carbon
R191	EP14X447	39K ohm, 5%, l/4W, Carbon
★R192	EP14X380	27K ohm, 5%, l/4W, Carbon
R193	EP14X421	4.3K ohm, 5%, l/4W, Carbon
R194	EP14X103	10K ohm, 5%, l/4W, Carbon
R195	EP14X400	2.7K ohm, 5%, l/4W, Carbon
R196	EP14X105	100K ohm, 5%, 1/4W, Carbon
R197	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
R198	EP14X424	8.2K ohm, 5%, l/4W, Carbon
R199	EP14X409	10 ohm, 5%, 1/4W, Carbon
R200	ES14X69	56 ohm, 5%, l/4W, Carbon
R202	EP14X285	20K ohm, 5%, l/8W, Carbon
R204	EP14X444	1.2K ohm, 5%, l/8W, Carbon
R206	EP14X243	2.2K ohm, 5%, l/8W, Carbon
R208	EP14X303	22K ohm, 5%, l/8W, Carbon
R209	EP14X428	82 ohm, 5%, l/4W, Carbon
R210	EP14X220	180 ohm, 5%, l/4W, Carbon
R211	EP14X421	4.3K ohm, 5%, l/8W, Carbon
R212	EP14X284	12K ohm, 5%, l/8W, Carbon
R213	EP14X140	330K ohm, 5%, l/8W, Carbon
R216	EP14X420	270 ohm, 5%, l/8W, Carbon
R217	ES14X61	820 ohm, 5%, 1/8W, Carbon
R218	EP14X289	430 ohm, 5%, l/8W, Carbon
R220	EP14X283	680 ohm, 5%, l/8W, Carbon
R221	EP14X293	680K ohm, 5%, l/4W, Carbon

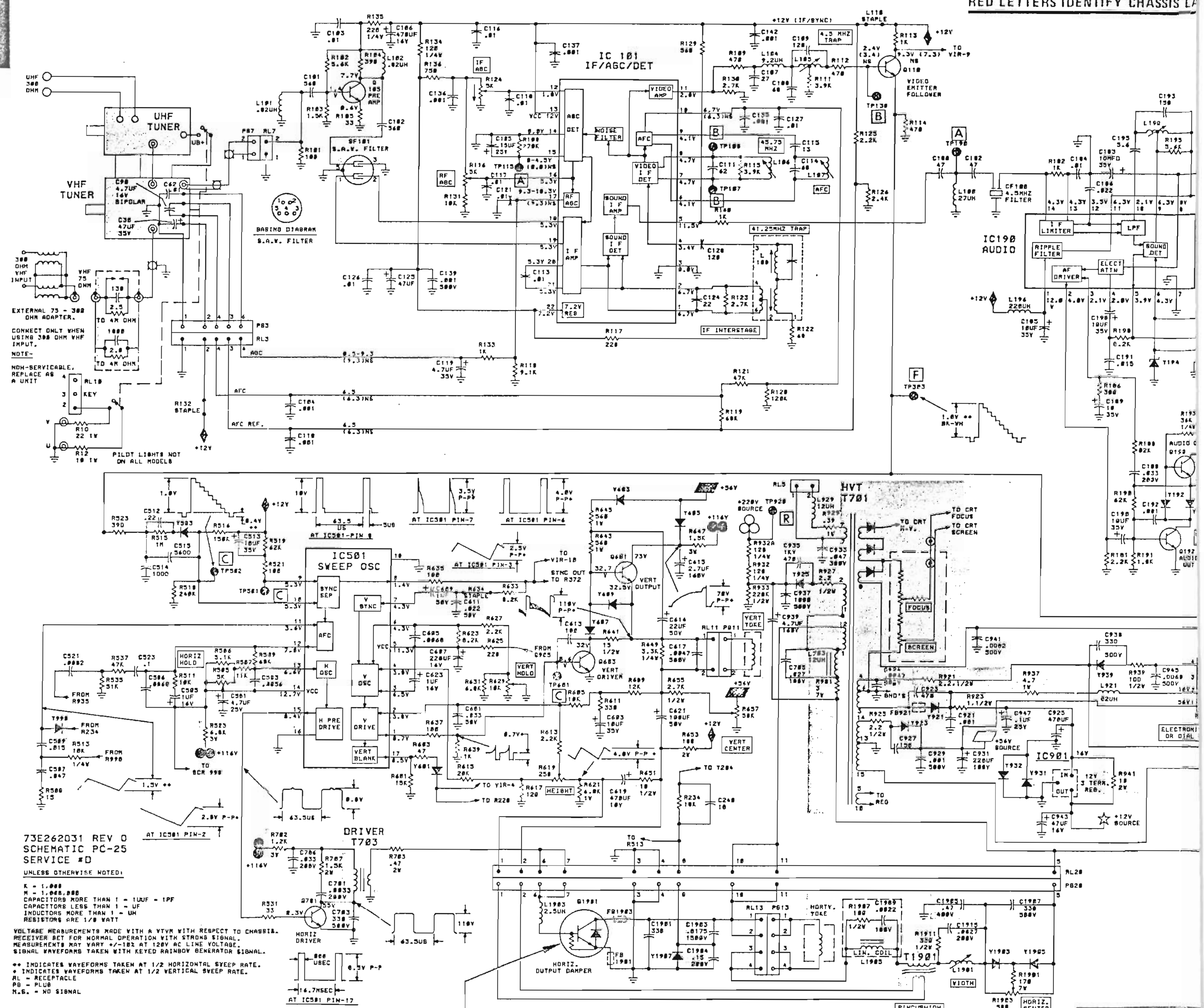
R222	EP14X415	82K ohm, 5%, l/4W, Carbon
R224	EP14X103	10K ohm, 5%, l/8W, Carbon
R226	ES14X59	560 ohm, 5%, l/4W, Carbon
R228	ES14X65	4.7K ohm, 5%, l/4W, Carbon
R230	ES14X71	1K ohm, 5%, l/4W, Carbon
R234	EP14X414	18K ohm, 5%, l/4W, Carbon
R240	ES14X71	1K ohm, 5%, l/4W, Carbon
R250	ES14X62	1.5K ohm, 5%, l/4W, Carbon
R252	EP14X303	22K ohm, 5%, l/8W, Carbon
R254	EP14X105	100K ohm, 5%, l/8W, Carbon
R256	EP14X411	2.4K ohm, 5%, l/4W, Carbon
R258	EP14X398	15K ohm, 5%, l/4W, Carbon
R270	EP14X284	10 ohm, 5%, l/8W, Carbon
R300	EP14X426	36K ohm, 5%, l/4W, Carbon
R302	EP14X370	9.1K ohm, 5%, l/4W, Carbon
R310	EP14X133	470K ohm, 5%, l/8W, Carbon
R312	EP14X400	2.7K ohm, 5%, l/4W, Carbon
R316	EP14X128	330 ohm, 5%, l/4W, Carbon
R318	EP14X447	39K ohm, 5%, l/4W, Carbon
R320	EP14X444	1.2K ohm, 5%, l/8W, Carbon
R322	ES14X58	470 ohm, 5%, l/4W, Carbon
R326	ES14X71	1K ohm, 5%, l/4W, Carbon
R328	ES14X71	1K ohm, 5%, l/4W, Carbon
R336	EP14X381	3K ohm, 5%, l/4W, Carbon
R338	EP14X105	100K ohm, 5%, 1/4W, Carbon
R350	EP14X436	3.6K ohm, 5%, l/4W, Carbon
R352	EP14X436	3.6K ohm, 5%, l/4W, Carbon
R354	EP14X128	330 ohm, 5%, l/4W, Carbon
R355	EP14X128	330 ohm, 5%, l/4W, Carbon
R356	EP14X436	3.6K ohm, 5%, l/4W, Carbon
R358	EP14X128	330 ohm, 5%, l/4W, Carbon
R370	EP14X284	IK ohm, 5%, l/8W, Carbon
R372	EP14X402	300 ohm, 5%, l/4W, Carbon
R380	ES14X65	4.7K ohm, 5%, l/4W, Carbon
R381	EP14X180	5.6K ohm, 5%, l/8W, Carbon
R389	EP14X382	820K ohm, 5%, 1/4W, Carbon
R391	EP14X418	5.1K ohm, 5%, l/4W, Carbon
R503	EP14X323	6.8K ohm, 5%, 3W, Flame Proof
R506	EP14X418	5.1K ohm, 5%, l/4W, Carbon
R507	EP14X376	11K ohm, 5%, l/4W, Carbon
R508	EP14X188	15 ohm, 5%, l/4W, Carbon
R509	EP14X119	68K ohm, 5%, l/4W, Carbon
R511	EP14X103	10K ohm, 5%, l/8W, Carbon
R513	EP14X103	10K ohm, 5%, l/4W, Carbon
R516	EP14X453	150K ohm, 5%, l/4W, Carbon
R517	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R518	EP14X425	240K ohm, 5%, l/4W, Carbon
R519	EP14X422	62K ohm, 5%, l/4W, Carbon
R521	ES14X56	33 ohm, 5%, l/4W, Carbon
R523	ES14X59	560 ohm, 5%, l/4W, Carbon
R525	EP14X131	47K ohm, 5%, 1/4W, Carbon
R527	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R528	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R529	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R531	EP14X409	10 ohm, 5%, l/4W, Carbon
R532	ES14X61	820 ohm, 5%, 1/4W, Carbon
R535	EP14X104	22K ohm, 5%, l/4W, Carbon
R537	EP14X131	47K ohm, 5%, 1/4W, Carbon
R601	EP14X398	15K ohm, 5%, l/4W, Carbon
R603	ES14X51	47 ohm, 5%, l/4W, Carbon
R605	EP14X103	10K ohm, 5%, l/4W, Carbon
R609	EP14X122	7.5K ohm, 5%, 1/4W, Carbon
R611	EP14X128	330 ohm, 5%, l/4W, Carbon
R613	EP14X243	2.2K ohm 5%, l/4W, Carbon
R615	EP14X285	20K ohm, 5%, l/8W, Carbon
R617	EP14X129	220 ohm, 5%, l/4W, Carbon
R621	EP14X388	6.8 ohm, 5%, 1W, Metal Oxide

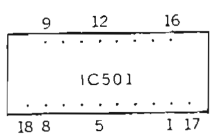
(CONTINUED)

25PC-D CHASSIS

RED LETTERS IDENTIFY CHASSIS LA

SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRONIC TUNING MODELS.





BASING DIAGRAM (IC501)
BOTTOM VIEW

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

73E262031 REV 0
SCHEMATIC PC-25
SERVICE #D

UNLESS OTHERWISE NOTED:

K = 1,000
M = 1,000,000
CAPACITORS MORE THAN 1 = UUF = PF
CAPACITORS LESS THAN 1 = UF
INDUCTORS MORE THAN 1 = UH
RESISTORS ARE 1/8 WATT

VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS.
RECEIVER SET FOR NORMAL OPERATION WITH STRONG SIGNAL.
MEASUREMENTS MAY VARY +/-10% AT 120V AC LINE VOLTAGE.
SIGNAL WAVEFORMS TAKEN WITH KEYED RAINBOW GENERATOR SIGNAL.

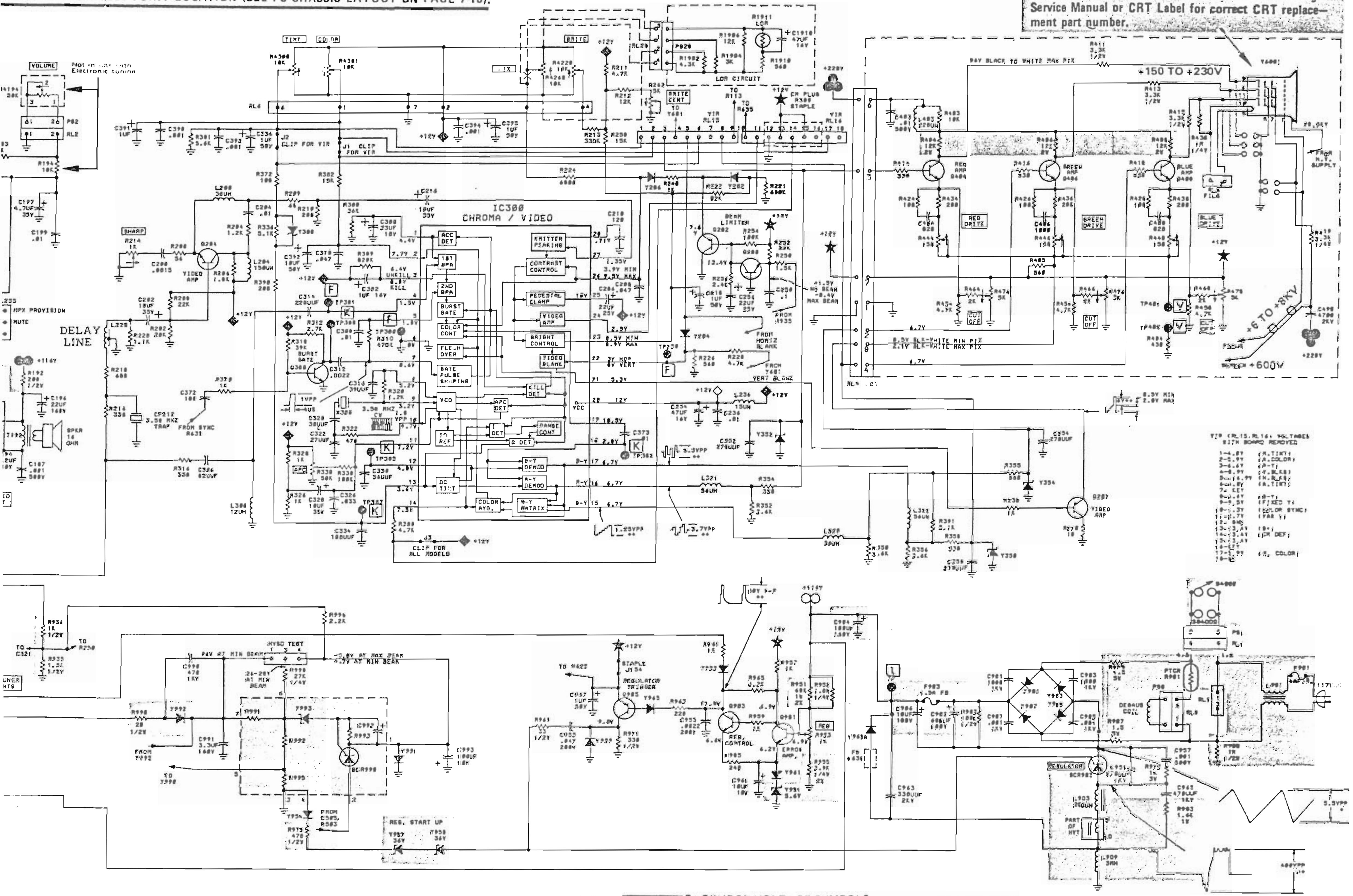
** INDICATES WAVEFORMS TAKEN AT 1/2 HORIZONTAL SWEEP RATE.
* INDICATES WAVEFORMS TAKEN AT 1/2 VERTICAL SWEEP RATE.
RL - RECEPTACLE
PG - PLUG
N.S. - NO SIGNAL

HORIZ. OUTPUT XSISTOR AND DAMPER DIODE ARE INCLUDED IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT GE CATALOG REPLACEMENT PART NUMBER EP15X218.

25PC-D

'OUT GRID FOR TEST POINT LOCATION (SEE PC CHASSIS LAYOUT ON PAGE 7-10).

– NOTE –
Replace CRT (V6001) with the same type in the receiver or factory authorized substitute only. See Model Page in Service Manual or CRT Label for correct CRT replacement part number.



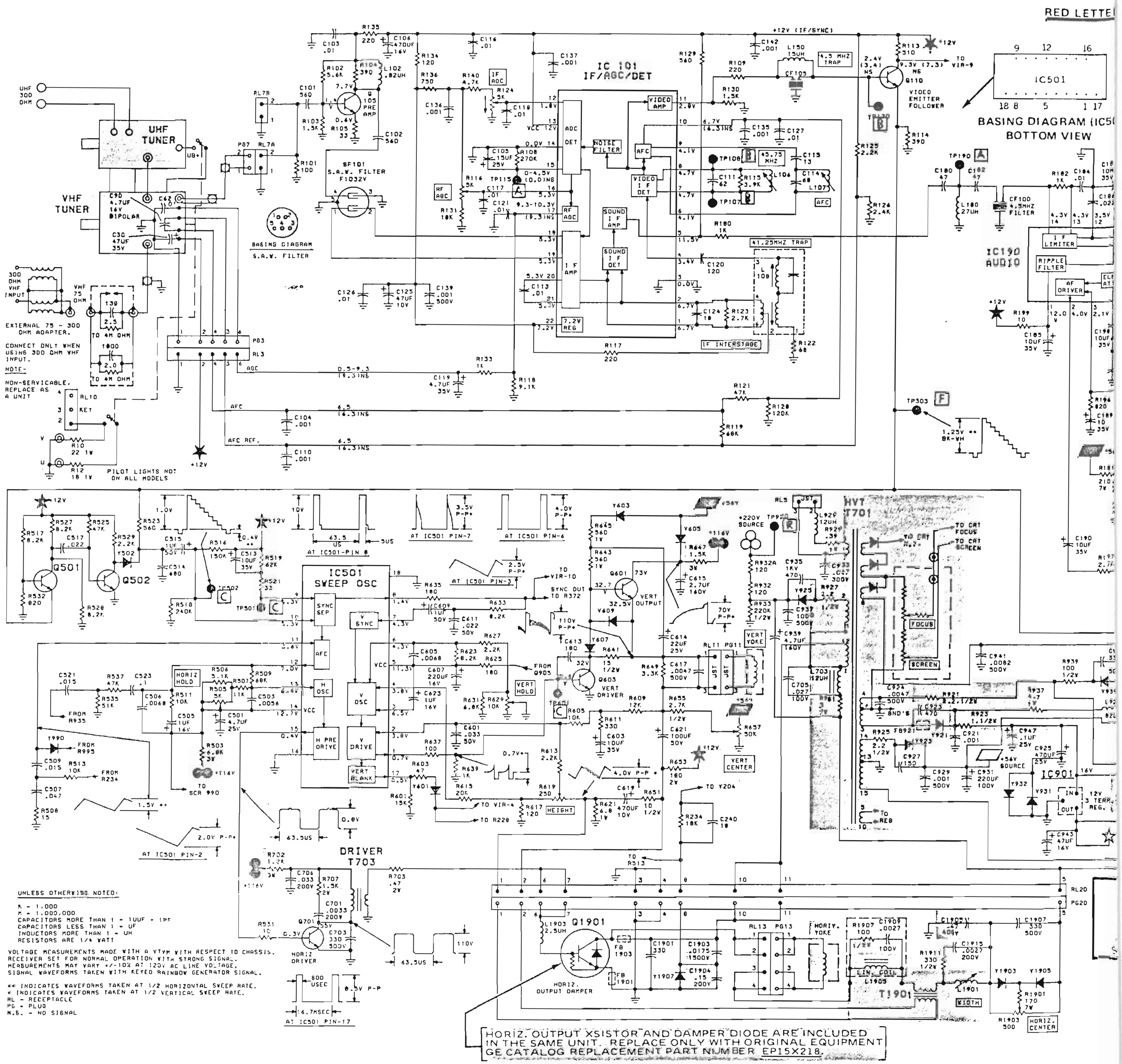
B+ SOURCE VOLTAGE SYMBOLS

+12V SOURCE	+56V SOURCE	+114V SOURCE	+220V SOURCE	+12V SOURCE (IC300 PIN 20)

MAIN CHASSIS SCHEMATIC DIAGRAM

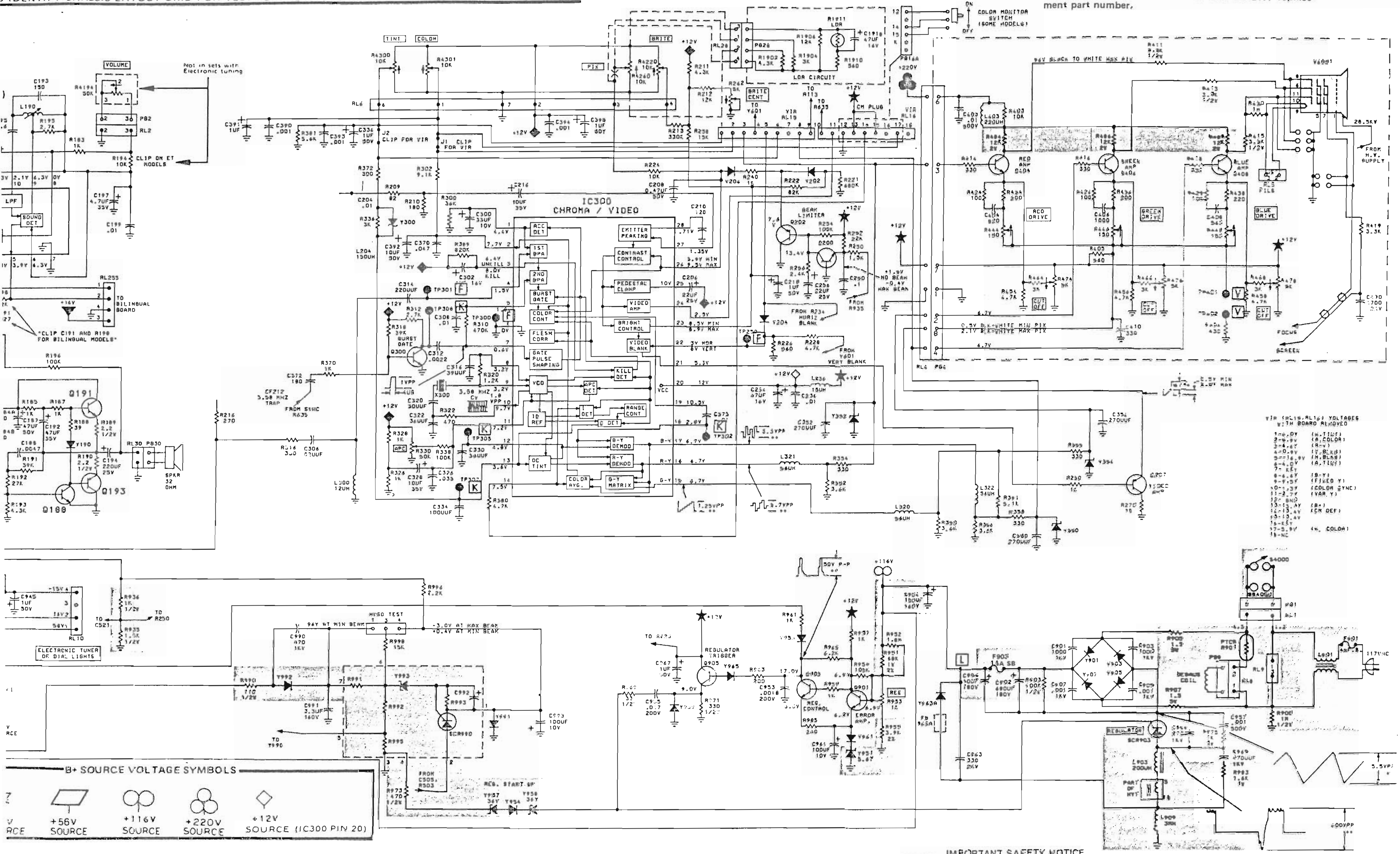
25PC—E/F/H CHASSIS

SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRONIC TUNING MODELS.



S IDENTIFY CHASSIS LAYOUT GRID FOR TEST POINT LOCATION (SEE PC CHASSIS LAYOUT ON PAGE 7-18)

–NOTE–
Replace CRT (V6001) with the same type in the receiver or factory authorized substitute only. See Model Page in Service Manual or CRT Label for Correct CRT replacement part number.



IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

25PC-E/F/H MAIN CHASSIS SCHEMATIC DIAGRAM

25PC–E/F/H MAIN CHASSIS REPLACEMENT PARTS LIST

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

25" PC E/F CHASSIS

CIRCUIT BOARD ASSEMBLIES

PART NO.	DESCRIPTION
	Main Circuit Board
EP93X550	RGB Circuit Board
EP93X537	Horiz. Heat Sink Circuit Board
EP93X462	VIR Circuit Board

CHASSIS

PARTS NOT ON CIRCUIT BOARDS

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C30	EP31X45	47uf, 35V, Elect.
C60	ES25X22	.01uf, 20%, 50V, Polyester
C90	EP31X161	4.7uf, 20%, 16V, Bi Polar, Elect.
C95	EP31X149	10uf, 35V, Elect.
C232	EP31X147	47uf, +100-10%, 250V, Elect.
C4000	EP18X81	1000pf, +80-20%, 1KV, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X154	22 ohm, 5%, IW, Carbon
R12	EP14X54	18 ohm, 5%, IW, Carbon
R29	EP14X326	VARSISTOR-"MOV", Metal Oxide
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz. Centering

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q100	ES15X125	NPN, Silicon
Q1901	EP15X218	NPN, Silicon

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
	EP36X451	COIL-Degaussing (2 Used)
	EP42X8	CONVERGENCE ASM.
	EP41X132	RELAY-(El. Tuning)
PT01	EP88X43	TRANSFORMER-Power (El. Tuning)
	EP76X39	YOKE

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-75 to 300 ohm (Antenna)
	EP2X594	BRACKET-CRT Corner Mounting, Plastic
	EP2X544	BRACKET-Ckt. Bd. Support, Plastic
	EP2X543	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H.V.T. Support, Plastic
	EP2X542	BRACKET-VIR Board Mounting, Plastic
	EP8X51	CABLE-Coaxial, 7" W/Phono Plugs
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-ET91 to UHF & KMP To UHF
	EP2X90	CLAMP-Yoke & Covn. Retainer
	EP2X548	CLIP-Anode Retainer
RL1	EP8X93	CONNECTOR-5 Pos.
RL2	EP8X90	CONNECTOR-3 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL6	EP8X66	CONNECTOR-7 Pos.
RL7	EP8X68	CONNECTOR-2 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-3 Pos. (KMP112/LMP112/SET112)
PG12	EP8X30	CONNECTOR-1 Pin
RL16A	EP8X66	CONNECTOR-7 Pos. (El. Tuning)
RL16A	EP8X92	CONNECTOR-8 Pos. (Direct)
RL17	EP8X90	CONNECTOR-5 Pos.
RL18	EP8X71	CONNECTOR-6 Pos.
RL28	EP8X42	CONNECTOR-4 Pins
RL59	EP8X43	CONNECTOR-2 Pins
PG250	EP8X43	CONNECTOR-2 Pins
	★EP66X19	CORD-AC Power, Polarized, Wired In-Type
	EP3X53	CUSHION-Yoke Wedge
	EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
	EP92X102	FRAME-Rear Support, For Main Board, Plastic
SG4000	EP41X145	SPARK GAP-(On Units W/Mechanical Tuners)
	EP34X41	SOCKET-Q100
	EU34X192	SOCKET-Pilot Light
	EP3X56	SPRING-CRT Ground
	EP3X54	SWITCH PAD-Foam Cushion
	EP90X3	Wire Tie

25" PC-H CHASSIS

CIRCUIT BOARD ASSEMBLIES

REF. NO.	PART NO.	DESCRIPTION
		Main Circuit Board
	EP93X550	RGB Circuit Board
	EP93X537	Horiz. Heat Sink Circuit Board
	EP93X462	VIR Circuit Board

CHASSIS

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C30	EP31X45	47uf, 35V, Elect.
C60	ES25X22	.01uf, 20%, 50V, Polyester
C90	EP31X161	4.7uf, 20%, 16V, Bi Polar, Elect.
C95	EP31X149	10uf, 35V, Elect.
C232	EP31X147	47uf, +100-10%, 250V, Elect.
C4000	EP18X81	1000pf, +80-20%, 1KV, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X154	22 ohm, 5%, IW, Carbon
R12	EP14X54	18 ohm, 5%, IW, Carbon
R29	EP14X326	VARSISTOR-"MOV", Metal Oxide
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	HORIZ. CENTERING-500 ohm, 10%

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q100	ES15X125	NPN, Silicon
Q1901	EP15X218	NPN, Silicon

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COILS & TR

REF. NO.	PART NO.
L50	ES36X82
	EP36X497
	EP42X8
	EP41X132
PT01	EP88X43
	EP76X39

MISCELL

REF. NO.	PART NO.
	EP90X40
	EP3X57
	EP2X649
	EP2X544
	EP2X543
	EP2X539
	EP2X542
	EP8X51
	EP8X60
	EP8X124
	EP2X90
	EP2X548
RL1	EP8X93
RL2	EP8X90
RL3	EP8X71
RL6	EP8X66
RL7	EP8X68
RL9	EP8X90
RL10	EP8X94
PG12	EP8X30
RL16A	EP8X66
RL16A	EP8X92
RL17	EP8X90
RL18	EP8X71
RL28	EP8X42
RL59	EP8X43
PG250	EP8X43
	★EP66X19
	EP3X53
	EP92X101
	EP92X10
SG4000	EP41X14
	EP34X41
	EU34X19
	EP3X56
	EP3X54
	EP90X3

.NSFORMER

DESCRIPTION
CHOKE-220uh, 10%
COIL-Degaussing (1 Used)
CONVERGENCE ASM.
RELAY-(El. Tuning)
TRANSFORMER-Power (El. Tuning)
YOKE

ANEOUS

DESCRIPTION
ADAPTOR-75 to 300 ohm (Antenna)
ANODE CLIP
BRACKET-CRT Corner Mounting, Plastic
BRACKET-Ckt. Bd. Support, Plastic
BRACKET-H.V.T. Brace, Plastic
BRACKET-H.V.T. Support, Plastic
BRACKET-VIR Board Mounting, Plastic
CABLE-Coaxial, 7" W/Phono Plugs
CABLE-Antenna Bracket To Tuner
CABLE-ET91 to UHF & KMP To UHF
CLAMP-Yoke & Covn. Retainer
CLIP-Anode Retainer
CONNECTOR-5 Pos.
CONNECTOR-3 Pos.
CONNECTOR-6 Pos.
CONNECTOR-7 Pos.
CONNECTOR-2 Pos.
CONNECTOR-3 Pos.
CONNECTOR-3 Pos. (KMP112/LMP112/SET112)
CONNECTOR-1 Pin
CONNECTOR-7 Pos. (El. Tuning)
CONNECTOR-8 Pos. (Direct)
CONNECTOR-5 Pos.
CONNECTOR-6 Pos.
CONNECTOR-4 Pins
CONNECTOR-2 Pins
CONNECTOR-2 Pins
CORD-AC Power, Polarized, Wired In-Type
CUSHION-Yoke Wedge
FRAME-Front & Sides, For Main Board Support, Plastic
FRAME-Rear Support, For Main Board, Plastic
SPARK GAP-(On Units W/Mechanical Tuners)
SOCKET-Q100
SOCKET-Pilot Light
SPRING-CRT Ground
SWITCH PAD-Foam Cushion
Wire Tie

MAIN CIRCUIT BOARD PC-E/F/H 25"

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	ES25X21	.15μf, 20%, 50V, Polyester
C106	EP31X159	470μf, 20%, 16V, Elect.
C110	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C113	EP18X197	.01μf, 10%, 50V, SHiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C115	EP18X101	13pf, 5%, 50V, NPO, Cer. Disc
C116	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C117	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C118	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C119	EP31X170	4.7μf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C124	EP18X185	18pf, 5%, 50V, NPO, Cer. Disc
C125	EP31X45	47μf, 20%, 10V, Elect.
C126	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C127	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C135	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X259	1000pf, 10%, 500V, Cer. Disc
C137	EP18X259	1000pf, 10%, 500V, Cer. Disc
C139	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C142	EP18X259	1000pf, 20%, 500V, HiK, Cer. Disc
C180	EP18X189	47pf, 5%, 50V, Cer. Disc
C182	EP18X189	47pf, 5%, 50V, Cer. Disc
C183	EP31X149	10μf, 20%, 35V, Elect.
C184	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C185	EP31X149	10μf, 20%, 35V, Elect.
C186	EP25X130	.022μf, 10%, 50V, Polyester
C187	EP31X177	470μf, 20%, 50V, Elect.
C188	EP25X165	4700pf, 10%, 50V, Polyester
C189	EP31X149	10μf, 20%, 35V, Elect.
C190	EP31X149	10μf, 20%, 35V, Elect.
C191	EP25X13	.027μf, 10%, 50V, Polyester
C192	EP31X45	47μf, 20%, 35V, Elect.
C193	EP18X113	150pf, 5%, 50V, NPO, Cer. Disc
C194	EP31X141	220μf, 20%, 25V, Elect.
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
C197	EP31X170	4.7μf, 20%, 35V, Elect.
C198	EP31X149	10μf, 20%, 35V, Elect.
C199	EP18X169	.01μf, 30%, 25V, Cer. Disc
C200	EP18X274	1500pf, 10%, 50V, SHiK, Cer. Disc
C202	EP31X149	10μf, 10%, 35V, Elect.
C204	EP18X169	.01μf, 30%, 25V, Cer. Disc
C206	EP31X172	22μf, 20%, 25V, Elect.
C208	EP18X172	.47μf, 20%, 50V, Elect.
C210	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	10μf, 10%, 35V, Elect.
C218	EP31X166	1μf, 20%, 50V, Elect.
C234	EP31X88	47μf, 10%, 16V, Elect.
C236	EP18X169	.01μf, 30%, 25V, Elect.
C240	ES18X56	18pf, 10%, 500V, Cer. Disc
C250	EP25X77	.1μf, 20%, 50V, Polyester
C256	EP31X172	22μf, 20%, 25V, Elect.
C300	EP31X175	33μf, +50-20%, 10V, Elect.
C302	EP31X178	1μf, 10%, 16V, Tantalum
C306	EP18X280	82pf, 5%, 50V, Cer. Disc
C308	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C312	EP18X198	2200pf, 30%, 25V, HiK, Cer. Disc
C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	30pf, 5%, 50V, Cer. Disc
C322	EP18X32	36pf, 5%, 50V, Cer. Disc
C326	EP25X124	.033μf, 20%, 50V, Polyester
C328	EP31X149	10μf, 20%, 35V, Elect.
C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	100pf, 5%, 50V, Cer. Disc
C336	EP31X166	1μf, 20%, 50V, Elect.
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C370	EP25X87	.047μf, 20%, 50V, Polyester
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
C373	EP18X169	.01μf, 30%, 25V, NPO, Cer. Disc
C390	EP18X220	1000pf, +80-20%, 500V, HiK Cer Disc
C391	EP31X166	1μf, 20%, 50V, Elect.
C392	EP31X150	10μf, 20%, 50V, Elect.
C393	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C394	EP18X220	1000pf, +80-20%, 500V, HiK Cer Disc
C395	EP31X166	1μf, 20%, 50V, Elect.
C501	EP31X170	4.7μf, 20%, 35V, Elect.
C503	EP25X149	5600pf, 5%, 100V, Polypropylene
C505	EP31X178	1μf, 10%, 16V, Tantalum
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047μf, 10%, 50V, Polyester
C509	EP25X80	.015μf, 10%, 50V, Polyester
C513	EP31X149	10μf, 20%, 35V, Elect.
C514	EP22X5	680pf, 10%, 50V, Cer. Disc
C515	EP31X166	1μf, 20%, 50V, Elect.
C517	EP25X183	.022μf, 10%, 50V, Polyester
C521	EP25X80	.015μf, 10%, 50V, Polyester
C523	EP25X77	.1μf, 20%, 50V, Polyester
C601	EP25X171	.033μf, 10%, 50V, Polyester
C603	EP31X149	10μf, 20%, 35V, Elect.
C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Disc
C607	EP31X141	220μf, 20%, 16V, Elect.
C609	EP31X166	1μf, 20%, 50V, Elect.
C611	EP25X183	.022μf, 10%, 50V, Polyester
C613	EP18X286	180pf, 5%, 500V, Cer. Disc
C614	EP31X172	22μf, 20%, 25V, Elect.
C615	EP31X151	2.7μf, 20%, 160V, Elect.
C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C619	EP31X154	470μf, 20%, 10V, Elect.
C621	EP31X169	100μf, 20%, 50V, Elect.
C623	EP31X178	1μf, 10%, 35V, Tantalum
C701	EP25X110	3300pf, 10%, 200V, Mylar
C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
C705	EP25X148	.027μf, 10%, 100V, Polyester
C706	EP25X146	.033μf, 20%, 200V, Mylar
C901	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
★C902	EP31X165	680μf, 20%, 180V, Elect.
C903	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
★C904	EP31X109	100μf, 10%, 160V, Elect.
C905	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
★C906	EP31X156	10μf, +50-20%, 180V, Elect.
C907	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
C921	ES22X76	1000pf, 20%, 500V, HiK, Cer. Disc
C923	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C925	EP31X159	470μf, 20%, 25V, Elect
C927	EP18X268	150pf, 20%, 1KV, HiK, Cer. Disc
C929	EP18X81	1000pf, 20%, 500V, Cer. Disc
C931	EP31X157	220μf, 20%, 100V, Elect
C933	EP25X89	.047μf, 20%, 300V, Mylar
C935	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
C938	EP18X217	330pf, 10%, 500V, Cer. Disc
C939	EP31X155	4.7μf, +50-20%, 160V, Elect
C941	EP18X132	8200pf, 10%, 500V, Cer. Disc
C943	EP31X45	47μf, 20%, 16V, Elect.
C945	EP31X166	1μf, 20%, 50V, Elect.
C947	EP18X118	.1μf, 10%, 25V, Cer. Disc
C953	EP25X161	1800pf, 10%, 200V, Mylar
C955	EP20X20	.047μf, 10%, 200V, Mylar
C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
C959	EP18X266	270pf, 20%, 1KV, SHiK, Cer. Disc
C961	ES31X32	100μf, 20%, 10V, Elect.
C963	ES18X13	330pf, 20%, 2KV, Cer. Disc
C965	EP18X11	470pf, 10%, 1KV, Cer. Disc
C967	EP31X166	1μf, 20%, 50V, Elect.
C990	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C991	EP31X160	3.3μf, +50-10%, 160V, Elect.
C993	EP31X169	100μf, 20%, 10V, Elect.

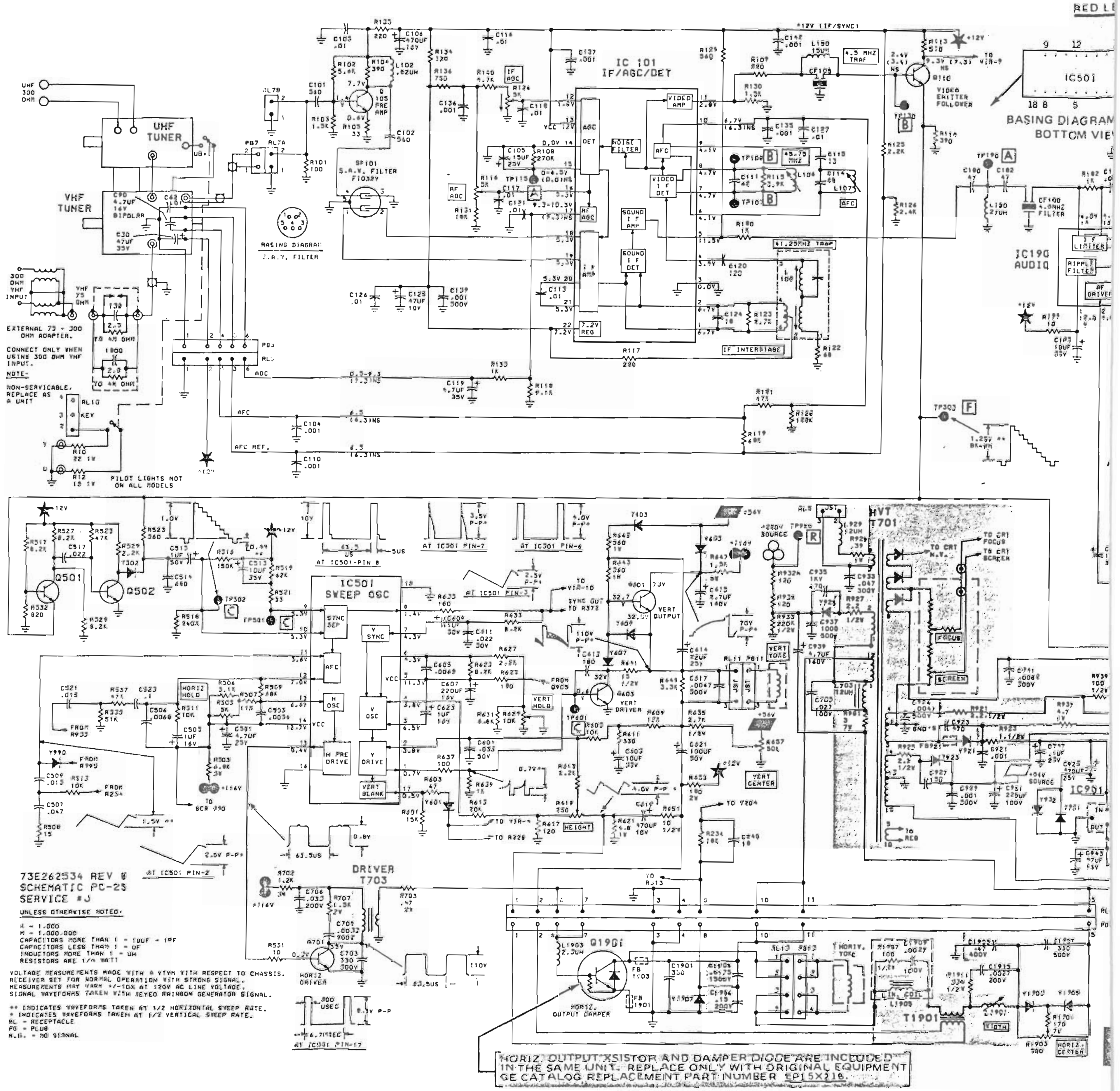
RESISTORS

REF. NO.	PART NO.	DESCRIPTION
MOV963	EP14X326	VARISTOR
R101	ES14X70	100 ohm, 5%, 1/4W, Carbon
R102	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
R103	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R104	ES14X57	390 ohm, 5%, 1/4W, Carbon
R105	ES14X56	33 ohm, 5%, 1/4W, Carbon
R108	EP14X97	270K ohm, 5%, 1/4W, Carbon
R109	EP14X318	220 ohm, 5%, 1/8W, Carbon
R113	EP14X373	510 ohm, 5%, 1/8W, Carbon
R114	ES14X57	390 ohm, 5%, 1/4W, Carbon
R115	EP14X407	3.9K ohm, 5%, 1/8W, Carbon
R117	EP14X318	220 ohm, 5%, 1/4W, Carbon
R118	EP14X370	9.1K ohm, 5%, 1/8W, Carbon
R119	EP14X119	68K ohm, 5%, 1/4W, Carbon
R121	EP14X131	47K ohm, 5%, 1/4W, Carbon
R122	EP14X182	68 ohm, 5%, 1/4W, Carbon
R123	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R125	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R126	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
R128	EP14X185	120K ohm, 5%, 1/4W, Carbon
R129	ES14X59	560 ohm, 5%, 1/4W, Carbon
R130	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R131	EP14X414	18K ohm, 5%, 1/4W, Carbon
R133	ES14X71	1K ohm, 5%, 1/4W, Carbon
R134	EP14X378	120 ohm, 5%, 1/4W, Carbon
R135	EP14X318	220 ohm, 5%, 1/4W, Carbon
R136	EP14X385	750 ohm, 5%, 1/8W, Carbon
R140	EP14X249	4.7K ohm, 5%, 1/8W, Carbon
R180	ES14X71	1K ohm, 5%, 1/4W, Carbon
R181	EP14X455	210 ohm, 5%, 7W, Wirewound
R182	EP14X284	1K ohm, 5%, 1/8W, Carbon
R183	EP14X284	1K ohm, 5%, 1/8W, Carbon
R184A	EP14X115	430 ohm, 5%, 2W, Carbon
R184B	EP14X228	390 ohm, 5%, 2W, Metal Oxide
R185	ES14X71	1K ohm, 5%, 1/4W, Carbon
R186	ES14X61	820 ohm, 5%, 1/4W, Carbon

(CONTINUED)

25PC—J CHASSIS

SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRONIC TUNING MODELS.

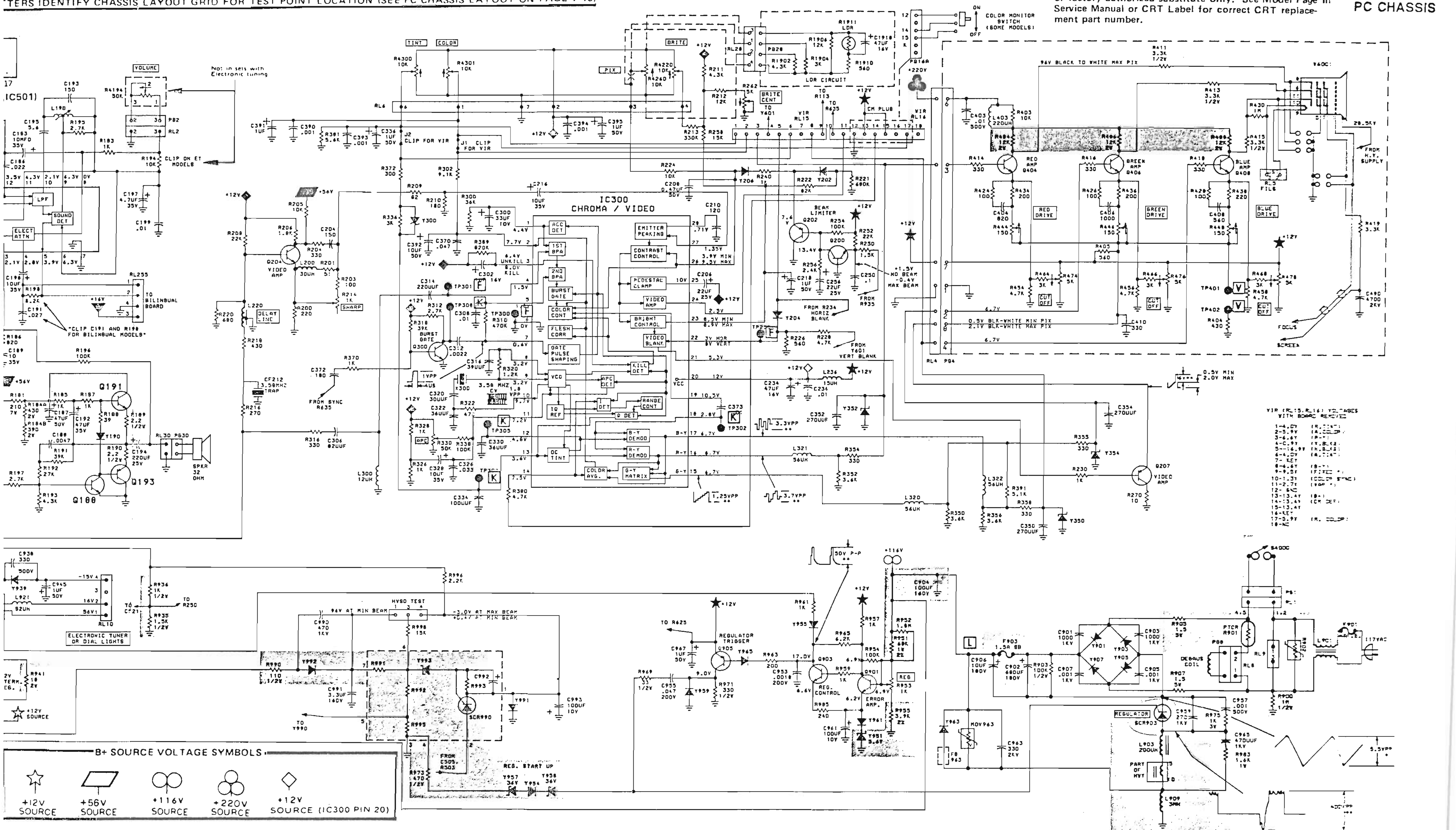


LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR TEST POINT LOCATION (SEE PC CHASSIS LAYOUT ON PAGE 7-18)

—NOTE—

Replace CRT (V6001) with the same type in the receiver or factory authorized substitute only. See Model Page in Service Manual or CRT Label for correct CRT replacement part number.

PC CHASSIS



25PC-J MAIN CHASSIS SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

25PC–J MAIN CHASSIS REPLACEMENT PARTS LIST

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

CIRCUIT BOARD ASSEMBLIES

PART NO.	DESCRIPTION
	Main Circuit Board
EP93X550	RGB Circuit Board
EP93X537	Horiz. Heat Sink Circuit Board
EP93X462	VIR Circuit Board

CHASSIS

PARTS NOT ON CIRCUIT BOARDS

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C30	EP31X88	47µf, 25V, Elect.
C60	ES25X22	.01µf, 20%, 50V, Polyester
C90	EP31X161	4.7µf, 20%, 16V, Bi Polar, Elect.
C95	EP31X149	10µf, 35V, Elect.
C232	EP31X147	47µf, +100-10%, 250V, Elect.
C4000	EP18X81	1000pf, +80-20%, 1KV, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X154	22 ohm, 5%, IW, Metal Oxide
R12	EP14X481	18 ohm, 5%, IW, Metal Oxide
R29	EP14X326	VARSISTOR-"MOV", Metal Oxide
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R4003	EP14X385	750 ohm, 5%, 1/4W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	HORIZ. CENTERING-500 ohm, 10%

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q100	ES15X125	NPN, Silicon
Q1901	EP15X218	NPN, Silicon

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon
Y4001	EP41X14	L.E.D.-Red
Y4003	EP41X14	L.E.D.-Red

COILS AND TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220µh, 10%
	EP36X497	COIL-Degaussing (1 Used)
T1901	EP36X448	COIL-Pincushion
	EP42X8	CONVERGENCE ASM.
	EP41X132	RELAY-(El. Tuning)
PT01	EP88X43	TRANSFORMER-Power (El. Tuning)
PT01	EP88X47	TRANSFORMER-Standby
PT04	EP88X54	TRANSFORMER-Power Stereo
T03	EP64X63	TRANSFORMER-Audio Isolation (Left)
T04	EP64X63	TRANSFORMER-Audio Isolation (Right)
	EP76X39	YOKE

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-75 to 300 ohm (Antenna)
	EP51X7	ANTENNA ISOLATION CABLE-W/Shield Box
	EP3X57	ANODE CLIP
	EP2X649	BRACKET-CRT Corner Mounting, Plastic
	EP2X544	BRACKET-Ckt. Bd. Support, Plastic
	EP2X543	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H.V.T. Support, Plastic
	EP2X542	BRACKET-VIR Board Mounting, Plastic
	EP8X51	CABLE-Coaxial, 7" W/Phono Plugs
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-ET91 to UHF & KMP To UHF
	EP2X90	CLAMP-Yoke & Covn. Retainer
	ES3X29	CLIP-Antenna Terminal
	EP2X548	CLIP-Anode Retainer
RL1	EP8X93	CONNECTOR-5 Pos.
RL1A	EP8X67	CONNECTOR-4 Pos.
RL2	EP8X90	CONNECTOR-3 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL6	EP8X66	CONNECTOR-7 Pos.
RL7	EP8X68	CONNECTOR-2 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X90	CONNECTOR-3 Pos. (Mech. Tuner)
RL10	EP8X94	CONNECTOR-3 Pos. (El. Tuning)
PG12	EP8X30	CONNECTOR-1 Pin
RL16A	EP8X71	CONNECTOR-6 Pos. (MP1-112)
RL16A	EP8X66	CONNECTOR-7 Pos. (El. Tuning)
RL16A	EP8X92	CONNECTOR-8 Pos. (Direct)
RL17	EP8X90	CONNECTOR-5 Pos.
RL18	EP8X71	CONNECTOR-6 Pos.
RL28	EP8X42	CONNECTOR-4 Pins
RL59	EP8X43	CONNECTOR-2 Pins
RL244B	EP8X91	CONNECTOR-9 Pos.
PG250	EP8X43	CONNECTOR-2 Pins
	★EP66X19	CORD-AC Power, Polarized, Wired In-Type
	EP3X53	CUSHION-Yoke Wedge
	EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
	EP92X102	FRAME-Rear Support, For Main Board, Plastic
J01/J02	EP8X127	JACK-Phono Type
SG4000	EP41X145	SPARK GAP-(On Units W/Mechanical Tuners)
	EP34X69	SOCKET-CRT
	EP34X41	SOCKET-Q100
RL51	EP34X72	SOCKET-L.E.D.
RL53	EP34X72	SOCKET-L.E.D.
	EU34X192	SOCKET-Pilot Light
	EP3X56	SPRING-CRT Ground
	EP3X54	SWITCH PAD-Foam Cushion
	EP90X3	Wire Tie

MAIN CIRCUIT BOARD PC-J 25"

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C104	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	EP25X187	.15µf, 20%, 50V, Polyester
C106	EP31X31	470µf, 20%, 16V, Elect.
C107	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C110	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C113	EP18X197	.01µf, 10%, 50V, SHiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, NPO, Cer. Disc
C115	EP18X101	13pf, 5%, 50V, NPO, Cer. Disc
C116	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C117	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C118	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C119	EP31X179	4.7µf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C124	EP18X185	18pf, 5%, 50V, NPO, Cer. Disc
C125	EP31X45	47µf, 20%, 10V, Elect.
C126	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C127	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C135	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C137	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C139	EP18X259	100 Dis
C142	EP18X259	100 Dis
C180	EP18X189	47p
C182	EP18X189	47p
C183	EP31X149	10µ
C184	EP22X32	.01
C185	EP31X149	10µ
C186	EP25X183	.02
C187	EP31X177	47
C188	EP25X165	47
C189	EP31X149	10
C190	EP31X149	10
C191	EP25X13	.02
C192	EP31X45	47
C193	EP18X113	15
C194	EP31X188	22
C195	EP18X182	5.6
C197	EP31X179	4.7
C198	EP31X149	10
C199	EP18X169	.0
C200	EP18X274	15
C201	EP18X202	22
C202	EP31X149	10
C204	EP18X297	15
C206	EP31X172	22
C208	EP31X138	.4
C210	EP18X113	15
C216	EP31X149	10
C218	EP31X166	1µ
C234	EP31X45	47
C236	EP18X194	10
C240	ES18X56	18
C250	EP25X77	.1
C256	EP31X172	22
C300	EP31X175	33
C302	EP31X178	1µ
C306	EP18X280	82
C308	EP22X32	.0 D
C312	EP18X198	22 D
C314	EP18X202	2
C316	EU18X9	3
C320	EP18X219	3
C322	EP18X32	3
C326	EP25X124	.0
C328	EP31X149	1
C330	EP18X32	3
C334	EP18X194	1
C336	EP31X166	1
C350	EP18X203	2
C352	EP18X203	2
C354	EP18X203	2
C370	EP25X87	.0
C372	EP18X298	1
C373	EP18X169	.0
C390	EP18X220	1 D
C391	EP31X166	1
C392	EP31X149	1
C393	EP18X259	1 D
C394	EP18X285	1 D

)pf, 10%, 500V, SHiK, Cer.

)pf, 10%, 500V, SHiK, Cer.

, 5%, 50V, NPO, Cer. Disc
, 5%, 50V, NPO, Cer. Disc
, +80-20%, 35V, Elect.
f, 20%, 50V, HiK, Cer. Disc
, 20%, 35V, Elect.
µf, 10%, 50V, Polyester
ıf, 20%, 50V, Elect.
)pf, 10%, 50V, Polyester
, 20%, 35V, Elect.
, 20%, 35V, Elect.
µf, 10%, 50V, Polyester
, 20%, 35V, Elect.
of, 5%, 50V, NPO, Cer. Disc
ıf, 20%, 25V, Elect.
f, 10%, 50V, NPO, Cer. Disc
f, 20%, 35V, Elect.
, 20%, 35V, Elect.
f, 30%, 25V, Cer. Disc
)pf, 10%, 50V, SHiK, Cer. Disc
of, 10%, 50V, HiK, Cer. Disc
, 10%, 35V, Elect.
pf, 10%, 50V, HiK, Cer. Disc
f, 20%, 25V, Elect.
ıf, 20%, 50V, Elect.
pf, 5%, 50V, NPO, Cer. Disc
f, 10%, 35V, Elect.
20%, 50V, Elect.
f, 10%, 10V, Elect.
pf, 5%, 50V, N750, Cer. Disc
f, 10%, 500V, N750, Cer. Disc
, 20%, 50V, Polyester
f, 20%, 25V, Elect.
f, +50-20%, 10V, Elect.
10%, 16V, Tantalum
f, 5%, 50V, N220, Cer. Disc
ıf, +80-20%, 50V, HiK, Cer.
c
0pf, 30%, 25V, SSHiK, Cer.
c
pf, 10%, 50V, HiK, Cer. Disc
f, 5%, 50V, NPO, Cer. Disc
f, 5%, 50V, NPO, Cer. Disc
f, 5%, 50V, NPO, Cer. Disc
3µf, 20%, 50V, Polyester
f, 20%, 35V, Elect.
f, 5%, 50V, NPO, Cer. Disc
pf, 5%, 50V, N750, Cer. Disc
20%, 50V, Elect.
pf, 10%, 50V, HiK, Cer. Disc
pf, 10%, 50V, HiK, Cer. Disc
pf, 10%, 50V, HiK, Cer. Disc
7µf, 20%, 50V, Polyester
pf, 10%, 50V, HiK, Cer. Disc
ıf, 30%, 25V, SSHiK, Cer. Disc
0pf, +80-20%, 500V, HiK Cer
c
20%, 50V, Elect.
f, 20%, 35V, Elect.
0pf, 10%, 500V, SHiK, Cer.
c
0pf, +100-0%, 500V, HiK Cer.
c

C395	EP31X166	1µf, 20%, 50V, Elect.
C501	EP31X179	4.7µf, 20%, 35V, Elect.
C503	EP25X149	5600pf, 5%, 100V, Polypropylene
C505	EP31X178	1µf, 10%, 16V, Tantalum
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047µf, 10%, 50V, Polyester
C509	EP25X80	.015µf, 10%, 50V, Polyester
C513	EP31X149	10µf, 20%, 35V, Elect.
C514	EP22X5	680pf, 10%, 50V, Cer. Disc
C515	EP31X166	1µf, 20%, 50V, Elect.
C517	EP25X183	.022µf, 10%, 50V, Polyester
C521	EP25X80	.015µf, 10%, 50V, Polyester
C523	EP25X77	.1µf, 20%, 50V, Polyester
C601	EP25X171	.033µf, 10%, 50V, Polyester
C603	EP31X149	10µf, 20%, 35V, Elect.
C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Disc
C607	EP31X188	220µf, 20%, 16V, Elect.
C609	EP31X166	1µf, 20%, 50V, Elect.
C611	EP25X183	.022µf, 10%, 50V, Polyester
C613	EP18X286	180pf, 5%, 500V, N750, Cer. Disc
C614	EP31X172	22µf, 20%, 25V, Elect.
C615	EP31X94	2.7µf, 20%, 160V, Elect.
C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C619	EP31X159	470µf, 20%, 10V, Elect.
C621	EP31X169	100µf, 20%, 50V, Elect.
C623	EP31X178	1µf, 10%, 35V, Tantalum
C701	EP25X110	3300pf, 10%, 200V, Mylar
C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
C705	EP25X148	.027µf, 10%, 100V, Polyester
C706	EP25X146	.033µf, 20%, 200V, Mylar
C901	EP18X299	1000pf, +100-0%, 1KV, Cer. Disc
★C902	EP31X165	680µf, 20%, 180V, Elect.
C903	EP18X299	1000pf, +100-0%, 1KV, Cer. Disc
★C904	EP31X109	100µf, 10%, 160V, Elect.
C905	EP18X299	1000pf, +100-0%, 1KV, Cer. Disc
★C906	EP31X156	10µf, +50-20%, 180V, Elect.
C907	EP18X299	1000pf, +100-0%, 1KV, Cer. Disc
C921	EP18X81	1000pf, 20%, 500V, HiK, Cer. Disc
C923	EP18X279	470pf, 20%, 1KV, Cer. Disc
C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C925	EP31X159	470µf, 20%, 25V, Elect
C927	EP18X268	150pf, 20%, 1KV, HiK, Cer. Disc
C929	EP18X81	1000pf, 20%, 500V, Cer. Disc
C931	EP31X157	220µf, 20%, 100V, Elect
C933	EP25X89	.047µf, 20%, 300V, Mylar
C935	EP18X279	470pf, 20%, 1KV, Cer. Disc
C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
C938	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
C939	EP31X155	4.7µf, +50-20%, 160V, Elect
C941	EP18X132	8200pf, 10%, 500V, SHiK, Cer. Disc
C943	EP31X45	47µf, 20%, 10V, Elect.
C944	EP25X95	.22µf, 10%, 50V, Polyester
C945	EP31X166	1µf, 20%, 50V, Elect.
C947	EP18X118	.1µf, 10%, 25V, Cer. Disc
C953	EP25X161	1800pf, 10%, 200V, Mylar
C955	EP20X20	.047µf, 10%, 200V, Mylar
C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
C959	EP18X266	270pf, 20%, 1KV, SHiK, Cer. Disc
C961	ES31X62	100µf, 20%, 10V, Elect.
C963	ES18X13	330pf, 20%, 2KV, Cer. Disc
C965	EP18X11	470pf, 10%, 1KV, Cer. Disc
C967	EP31X166	1µf, 20%, 50V, Elect.
C990	EP18X279	470pf, 20%, 1KV, Cer. Disc
C991	EP31X160	3.3µf, +50-10%, 160V, Elect.
C993	EP31X169	100µf, 20%, 10V, Elect.

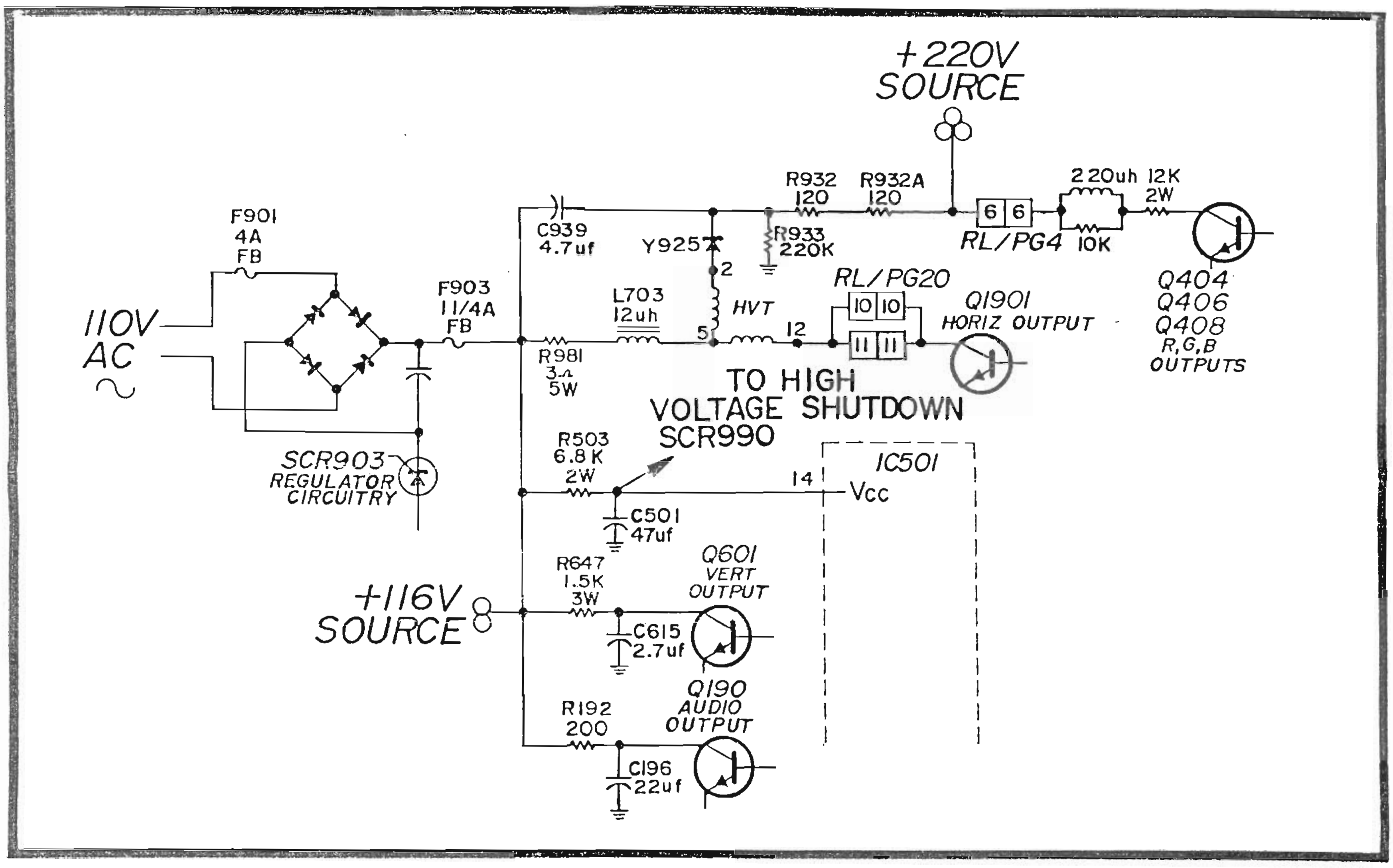
RESISTORS

REF. NO.	PART NO.	DESCRIPTION
MOV963	EP14X473	VARISTOR
R101	ES14X70	100 ohm, 5%, 1/4W, Carbon
R102	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
R103	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R104	ES14X57	390 ohm, 5%, 1/4W, Carbon
R105	ES14X56	33 ohm, 5%, 1/4W, Carbon
R108	EP14X97	270K ohm, 5%, 1/4W, Carbon
R109	EP14X318	220 ohm, 5%, 1/8W, Carbon
R113	EP14X373	510 ohm, 5%, 1/8W, Carbon
R114	ES14X57	390 ohm, 5%, 1/4W, Carbon
R115	EP14X407	3.9K ohm, 5%, 1/8W, Carbon
R117	EP14X318	220 ohm, 5%, 1/4W, Carbon
R118	EP14X370	9.1K ohm, 5%, 1/4W, Carbon
R119	EP14X119	68K ohm, 5%, 1/4W, Carbon
R121	EP14X131	47K ohm, 5%, 1/4W, Carbon
R122	EP14X182	68 ohm, 5%, 1/4W, Carbon
R123	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R125	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R126	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
R128	EP14X185	120K ohm, 5%, 1/4W, Carbon
R129	ES14X59	560 ohm, 5%, 1/4W, Carbon
R130	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R131	EP14X414	18K ohm, 5%, 1/4W, Carbon
R133	ES14X71	1K ohm, 5%, 1/4W, Carbon
R134	EP14X378	120 ohm, 5%, 1/4W, Carbon
R135	EP14X318	220 ohm, 5%, 1/4W, Carbon
R136	EP14X385	750 ohm, 5%, 1/8W, Carbon
R140	EP14X249	4.7K ohm, 5%, 1/8W, Carbon
R180	ES14X71	1K ohm, 5%, 1/4W, Carbon
R181	EP14X455	210 ohm, 5%, 7W, Wirewound
R182	EP14X284	1K ohm, 5%, 1/8W, Carbon
R183	EP14X284	1K ohm, 5%, 1/8W, Carbon
R184A	EP14X115	430 ohm, 5%, 2W, Carbon
R184B	EP14X228	390 ohm, 5%, 2W, Metal Oxide
R185	ES14X71	1K ohm, 5%, 1/4W, Carbon
R186	ES14X61	820 ohm, 5%, 1/4W, Carbon
R187	ES14X71	1K ohm, 5%, 1/4W, Carbon
R188	EP14X434	39 ohm, 5%, 1/4W, Carbon
R189	ES14X80	2.2 ohm, 5%, 1/2W, Carbon
R190	ES14X80	2.2 ohm, 5%, 1/2W, Carbon
R191	EP14X447	39K ohm, 5%, 1/4W, Carbon
★R192	EP14X380	27K ohm, 5%, 1/4W, Carbon
R193	EP14X421	4.3K ohm, 5%, 1/4W, Carbon
R194	EP14X103	10K ohm, 5%, 1/4W, Carbon
R195	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
R196	EP14X105	100K ohm, 5%, 1/4W, Carbon
R197	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
R198	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R199	EP14X409	10 ohm, 5%, 1/4W, Carbon
R200	EP14X318	220 ohm, 5%, 1/4W, Carbon
R201	EP14X404	51 ohm, 5%, 1/8W, Carbon
R202	EP14X285	20K ohm, 5%, 1/8W, Carbon
R203	ES14X70	100 ohm, 5%, 1/8W, Carbon
R204	EP14X469	330 ohm, 5%, 1/8W, Carbon
R205	EP14X103	10K ohm, 5%, 1/2W, Carbon
R206	EP14X190	1.8K ohm, 5%, 1/8W, Carbon
R208	EP14X303	22K ohm, 5%, 1/8W, Carbon
R209	ES14X61	820 ohm, 5%, 1/4W, Carbon
R210	ES14X64	2K ohm, 5%, 1/4W, Carbon
R211	EP14X421	4.3K ohm, 5%, 1/8W, Carbon
R212	EP14X284	12K ohm, 5%, 1/8W, Carbon
R213	EP14X140	330K ohm, 5%, 1/8W, Carbon

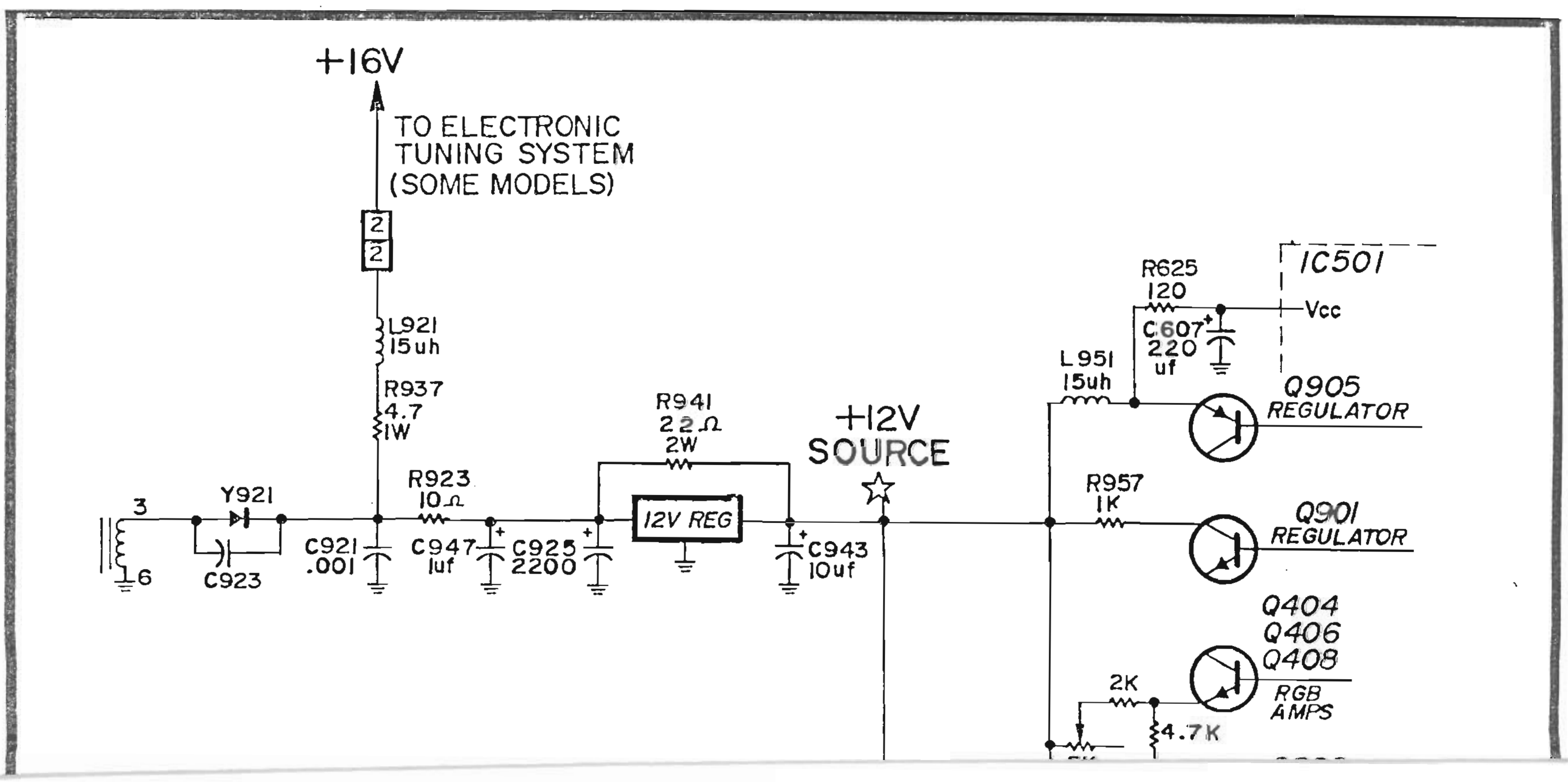
R216	EP14X420	270 ohm, 5%, 1/8W, Carbon
R217	ES14X61	820 ohm, 5%, 1/8W, Carbon
R218	EP14X289	430 ohm, 5%, 1/8W, Carbon
R220	EP14X283	680 ohm, 5%, 1/8W, Carbon
R221	EP14X293	680K ohm, 5%, 1/4W, Carbon
R222	EP14X415	82K ohm, 5%, 1/4W, Carbon
R224	EP14X103	10K ohm, 5%, 1/8W, Carbon
R226	ES14X59	560 ohm, 5%, 1/4W, Carbon
R228	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R230	EP14X103	10K ohm, 5%, 1/4W, Carbon
R234	EP14X414	18K ohm, 5%, 1/4W, Carbon
R240	ES14X71	1K ohm, 5%, 1/4W, Carbon
R250	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R252	EP14X303	22K ohm, 5%, 1/8W, Carbon
R254	EP14X105	100K ohm, 5%, 1/8W, Carbon
R256	EP14X411	2.4K ohm, 5%, 1/4W, Carbon
R258	EP14X398	15K ohm, 5%, 1/4W, Carbon
R263	EP14X103	10K ohm, 5%, 1/4W, Carbon
R270	EP14X284	10 ohm, 5%, 1/8W, Carbon
R300	EP14X426	36K ohm, 5%, 1/4W, Carbon
R302	EP14X370	9.1K ohm, 5%, 1/4W, Carbon
R310	EP14X133	470K ohm, 5%, 1/8W, Carbon
R312	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
R316	EP14X128	330 ohm, 5%, 1/4W, Carbon
R318	EP14X447	39K ohm, 5%, 1/4W, Carbon
R320	EP14X444	1.2K ohm, 5%, 1/8W, Carbon
R322	ES14X58	470 ohm, 5%, 1/4W, Carbon
R326	ES14X71	1K ohm, 5%, 1/4W, Carbon
R328	ES14X71	1K ohm, 5%, 1/4W, Carbon
R336	EP14X381	3K ohm, 5%, 1/4W, Carbon
R338	EP14X105	100K ohm, 5%, 1/4W, Carbon
R350	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
R352	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
R354	EP14X128	330 ohm, 5%, 1/4W, Carbon
R355	EP14X128	330 ohm, 5%, 1/4W, Carbon
R356	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
R358	EP14X128	330 ohm, 5%, 1/4W, Carbon
R370	EP14X284	1K ohm, 5%, 1/8W, Carbon
R372	EP14X402	300 ohm, 5%, 1/4W, Carbon
R380	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R381	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R389	EP14X382	820K ohm, 10%, 1/4W, Carbon
R391	EP14X418	5.1K ohm, 5%, 1/8W, Carbon
R503	EP14X323	6.8K ohm, 5%, 3W, Flame Proof
R506	EP14X418	5.1K ohm, 5%, 1/4W, Carbon
R507	EP14X376	11K ohm, 5%, 1/4W, Carbon
R508	EP14X188	15 ohm, 5%, 1/4W, Carbon
R509	EP14X119	68K ohm, 5%, 1/4W, Carbon
R511	EP14X103	10K ohm, 5%, 1/8W, Carbon
R513	EP14X103	10K ohm, 5%, 1/4W, Carbon
R516	EP14X453	150K ohm, 5%, 1/4W, Carbon
R517	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R518	EP14X425	240K ohm, 5%, 1/4W, Carbon
R519	EP14X422	62K ohm, 5%, 1/4W, Carbon
R521	ES14X56	33 ohm, 5%, 1/4W, Carbon
R523	ES14X59	560 ohm, 5%, 1/4W, Carbon
R525	EP14X131	47K ohm, 5%, 1/4W, Carbon
R527	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R528	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R529	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R531	EP14X409	10 ohm, 5%, 1/4W, Carbon
R532	ES14X61	820 ohm, 5%, 1/4W, Carbon
R535	EP14X386	51K ohm, 5%, 1/4W, Carbon
R537	EP14X131	47K ohm 5%, 1/4W, Carbon
R601	EP14X398	15K ohm, 5%, 1/4W, Carbon
R603	ES14X51	47 ohm, 5%, 1/4W, Carbon

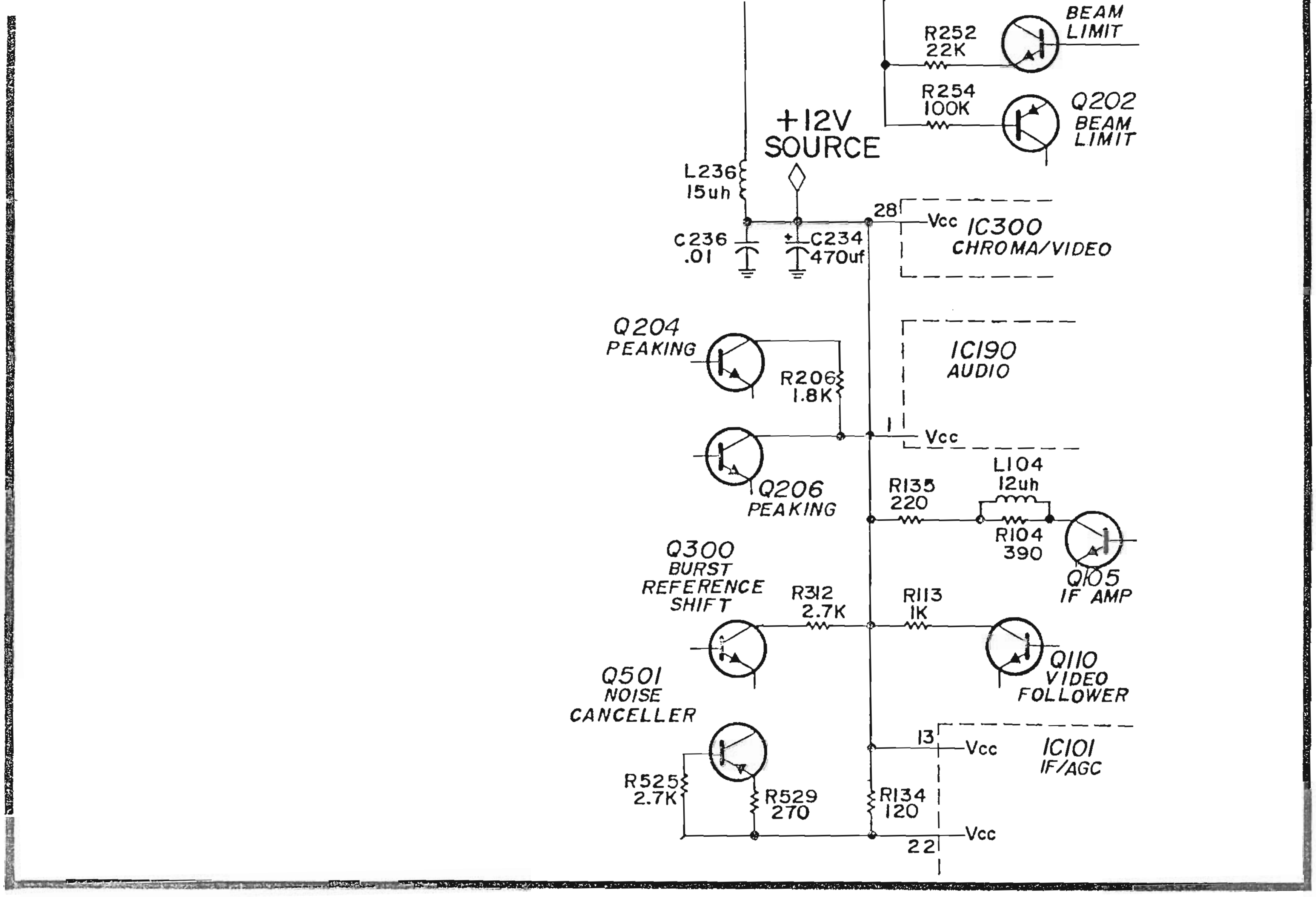
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—B+ DISTRIBUTION CIRCUITS—

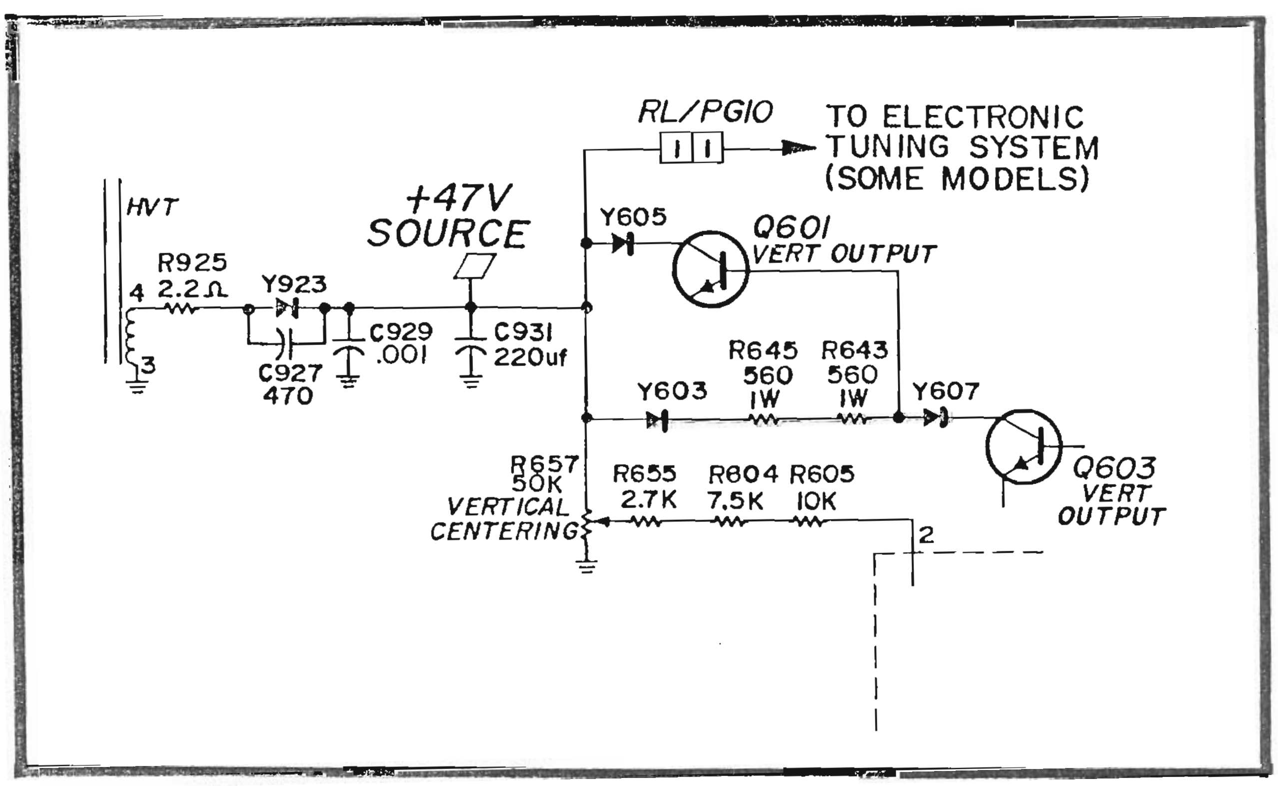


B+ 116V SOURCE





B+ 12V SOURCE



B+ 47V SOURCE

PC

KMP91 TUNING SYSTEM

Printed Circuit Board Assemblies

REF. NO.	PART NO.	DESCRIPTION
	EP93X312	KMP-91 Control Module
	★ EP93X387/388	UHF/VHF Tuner

MISCELLANEOUS
(Parts Not On Modules)

R232	EP14X319	RESISTOR, 8.6K ohm, 5%, 5W, File Type
R233	EP14X261	RESISTOR, 3K ohm, 5%, 2W, Metal Oxide
C232	EP31X147	CAPACITOR, 47uf, +50 -10%, 180V, Elect
Y232	EP57X4	DIODE - Rectifer
-	EP92X88	BRACKET, KMP9I Control Mtg. Plastic
RL9	EP8X90	CONNECTOR - 3 Pos.
RL38	EP8X94	CONNECTOR, 4 Pos.
RL212	EP8X92	CONNECTOR, 8 Pos.
PG207	EP8X88	CONNECTOR, 5 Pin
RG232	EP8X41	CONNECTOR, 3 Pin
PG/RL233	EP8X43	CONNECTOR, 2 Pin
PG255	EP8X30	CONNECTOR, 1 Pin
	EP93X185	KEYBOARD-Channel Select
	EP8X124	CABLE - KMP to UHF
	EP8X103	CABLE - KMP to VHF

KMP9I CONTROL MODULE

EP93X312

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C102	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C104	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C106	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C108	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C110	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C112	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C117	ES31X31	47uf, 20%, 16V, Elect.
C119	EP17X1	100pf, 10%, 50V, NPO, Cer.
C123	ES31X53	.47uf, 20%, 50V, Elect.
C124	ES31X48	.68uf, 10%, 16V, Elect.
C126	ES31X31	47uf, 20%, 16V, Elect.
C127	EP31X148	1000uf, +50-10%, 25V, Elect.
C128	EP18X169	.01uf, +80-20%, 50V, HiK, Cer.
C133	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C164	EP17X1	100pf, 10%, 50V, NPO, Cer
C165	EP18X188	33pf, 5%, 50V, Cer.
C166	EP18X187	27pf, 5%, 50V, NPO, Cer.
C167	EP21X2	3pf, 5%, 50V, NPO, Cer. Chip
C168	ES22X6	1000pf, +80-20%, 50V, HiK, Cer.
C169	ES22X6	1000pf, +80-20%, 50V, HiK, Cer.
C170	ES22X6	1000pf, +80-20%, 50V, HiK, Cer.
C171	EP18X169	.01uf, +80-20%, 50V, HiK, Cer.
C173	ES22X6	1000pf, +80-20%, 50V, HiK, Cer.
C174	EP31X144	4.7uf, 20%, 50V, Elect.
C176	EP18X169	.01uf, +80-20%, 50V, HiK, Cer.
C179	EP18X169	.01uf, +80-20%, 50V, HiK, Cer
C181	ES22X6	1000pf, +80-20%, 50V, HiK, Cer.
C182	ES22X6	1000pf, +80-20%, 50V, HiK, Cer.
C183	EP18X169	.01uf, +80-20%, 50V, HiK, Cer.
C203	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C205	EP18X169	.01uf, +80-20%, 50V, HiK, Cer.
C207	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C208	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C210	EP18X169	.01uf, +80-20%, 50V, HiK, Cer.
C213	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C215	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C217	EP31X149	10uf, 20%, 35V, Elect.
C221	EP18X167	.047uf, +80-20%, 50V, HiK, Cer.
C222	EP25X77	.10uf, 10%, 50V, Polyester
C223	EP18X167	.047uf, +80-20%, 50V, HiK, Cer.
C226	EP31X151	10uf, 20%, 50V, Elect.

RESISTORS

R101	EP14X284	10K ohm, 5%, ¼W, Carbon
R102	EP14X193	47K ohm, 5%, ¼W, Carbon
R103	EP14X284	10K ohm, 5%, ¼W, Carbon
R104	EP14X193	47K ohm, 5%, ¼W, Carbon
R105	EP14X284	10K ohm, 5%, ¼W, Carbon
R106	EP14X193	47K ohm, 5%, ¼W, Carbon
R107	EP14X284	10K ohm, 5%, ¼W, Carbon
R108	EP14X193	47K ohm, 5%, ¼W, Carbon
R109	EP14X284	10K ohm, 5%, ¼W, Carbon
R110	EP14X193	47K ohm, 5%, ¼W, Carbon
R111	EP14X284	10K ohm, 5%, ¼W, Carbon
R112	EP14X193	47K ohm, 5%, ¼W, Carbon
R113	EP14X284	10K ohm, 5%, ¼W, Carbon
R115	EP14X303	22K ohm, 5%, ¼W, Carbon
R116	EP14X303	22K ohm, 5%, ¼W, Carbon
R119	EP14X309	39K ohm, 5%, ¼W, Carbon
R120	EP14X303	100K ohm, 5%, ¼W, Carbon
R121	EP14X193	47K ohm, 5%, ¼W, Carbon
R122	EP14X303	100K ohm, 5%, ¼W, Carbon
R123	Common	270K ohm, 5%, ¼W, Carbon
R124	Common	470K ohm, 5%, ¼W, Carbon
R125	EP14X193	47K ohm, 5%, ¼W, Carbon
R126	EP14X283	680 ohm, 5%, ¼W, Carbon
R127	EP14X283	680 ohm, 5%, ¼W, Carbon
R128	EP14X284	10K ohm, 5%, ¼W, Carbon
R129	EP14X284	10K ohm, 5%, ¼W, Carbon
R130	EP14X303	22K ohm, 5%, ¼W, Carbon
R131	EP14X303	22K ohm, 5%, ¼W, Carbon
R132	EP14X284	10K ohm, 5%, ¼W, Carbon
R133	EP14X193	47K ohm, 5%, ¼W, Carbon
R135	EP14X284	10K ohm, 5%, ¼W, Carbon
R136	EP14X284	10K ohm, 5%, ¼W, Carbon
R137	EP14X284	10K ohm, 5%, ¼W, Carbon
R138	EP14X284	10K ohm, 5%, ¼W, Carbon
R139	EP14X303	470 ohm, 5%, ¼W, Carbon
R140	EP14X303	470 ohm, 5%, ¼W, Carbon
R141	EP14X303	470 ohm, 5%, ¼W, Carbon
R142	EP14X303	470 ohm, 5%, ¼W, Carbon
R143	EP14X303	470 ohm, 5%, ¼W, Carbon
R144	EP14X303	470 ohm, 5%, ¼W, Carbon
R145	EP14X303	470 ohm, 5%, ¼W, Carbon
R146	EP14X303	470 ohm, 5%, ¼W, Carbon
R147	EP14X303	470 ohm, 5%, ¼W, Carbon
R148	EP14X303	470 ohm, 5%, ¼W, Carbon
R149	EP14X303	470 ohm, 5%, ¼W, Carbon
R150	EP14X303	470 ohm, 5%, ¼W, Carbon
R151	EP14X303	470 ohm, 5%, ¼W, Carbon
R152	EP14X303	470 ohm, 5%, ¼W, Carbon
R153	Common	3.3K ohm, 5%, ¼W, Carbon
R154	EP14X284	10K ohm, 5%, ¼W, Carbon
R155	EP14X284	10K ohm, 5%, ¼W, Carbon
R156	EP14X303	22K ohm, 5%, ¼W, Carbon
R157	EP14X284	10K ohm, 5%, ¼W, Carbon
R158	EP14X303	22K ohm, 5%, ¼W, Carbon
R159	EP14X284	10K ohm, 5%, ¼W, Carbon
R160	EP14X303	22K ohm, 5%, ¼W, Carbon
R161	EP14X284	10K ohm, 5%, ¼W, Carbon
R162	EP14X303	22K ohm, 5%, ¼W, Carbon
R163	EP14X193	47K ohm, 5%, ¼W, Carbon
R164	EP14X284	10K ohm, 5%, ¼W, Carbon
R165	EP14X271	33K ohm, 5%, ¼W, Carbon
R167	ES14X70	100 ohm, 5%, ¼W, Carbon
R169	Common	51 ohm, 5%, ¼W, Carbon
R170	Common	91 ohm, 5%, ¼W, Carbon
R171	ES14X59	560 ohm, 5%, ¼W, Carbon
R172	EP14X285	15K ohm, 5%, ¼W, Carbon
R173	EP14X249	4.7K ohm, 5%, ¼W, Carbon
R174	EP14X284	10K ohm, 5%, ¼W, Carbon
R175	EP14X284	10K ohm, 5%, ¼W, Carbon
R176	Common	270K ohm, 5%, ¼W, Carbon
R177	EP14X193	47K ohm, 5%, ¼W, Carbon
R178	EP14X303	100K ohm, 5%, ¼W, Carbon
R179	EP14X303	22K ohm, 5%, ¼W, Carbon
R199	EP14X283	680 ohm, 5%, ¼W, Carbon
R200	EP14X284	10K ohm, 5%, ¼W, Carbon
R201	EP14X284	IK ohm, 5%, ¼W, Carbon
R202	EP14X193	47K ohm, 5%, ¼W, Carbon
R203	EP14X180	5.6K ohm, 5%, ¼W, Carbon
R204	EP14X303	22K ohm, 5%, ¼W, Carbon
R205	EP14X193	47K ohm, 5%, ¼W, Carbon
R206	EP14X180	5.6K ohm, 5%, ¼W, Carbon
R207	EP14X303	100K ohm, 5%, ¼W, Carbon
R208	EP14X303	100K ohm, 5%, ¼W, Carbon
R209	EP14X303	22K ohm, 5%, ¼W, Carbon
R210	EP14X193	47K ohm, 5%, ¼W, Carbon
R211	Common	3.3K ohm, 5%, ¼W, Carbon
R212	EP14X303	100K ohm, 5%, ¼W, Carbon
R213	EP14X285	15K ohm, 5%, ¼W, Carbon
R214	EP14X285	15K ohm, 5%, ¼W, Carbon
R215	EP14X193	47K ohm, 5%, ¼W, Carbon
R217	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R220	EP14X180	5.6K ohm, 5%, ¼W, Carbon
R221	EP14X250	2.2K ohm, 5%, ¼W, Carbon
R222	EP14X271	33K ohm, 5%, ¼W, Carbon
R223	EP14X303	470 ohm, 5%, ¼W, Carbon
R224	EP14X253	820 ohm, 5%, ¼W, Carbon
R225	Common	220 ohm, 5%, ¼W, Carbon
R226	EP14X284	10K ohm, 5%, ¼W, Carbon
R227	EP14X131	1.8K ohm, 5%, ½W, Carbon
R230	EP14X284	10K ohm, 5%, ¼W, Carbon
R231	EP14X284	1K ohm, 5%, ¼W, Carbon
R232	EP14X283	680 ohm, 5%, ¼W, Carbon
R233	EP14X284	10K ohm, 5%, ¼W, Carbon
R234	EP14X284	10K ohm, 5%, ¼W, Carbon
R235	EP14X243	2.2 ohm, 5%, ¼W, Carbon

INTEGRATED CIRCUITS

X165	EP41X68	Crystal Filter
IC10	EP84X111	Select Gate
IC20	EP84X110	7-Seg Driver
IC30	EP84X110	7-Seg Driver
IC40	EP84X219	Microcomputer
IC50	EP84X220	PLL/Prescaler

TRANSISTO

Q120	ES15X90	I
Q125	EP15X88	I
Q160	EP15X88	I
Q170	EP15X104	I
Q175	EP15X88	F
Q176	ES15X90	F
Q200	ES15X90	F
Q203	ES15X90	F
Q205	EP15X88	F
Q207	ES15X90	F
Q210	EP15X88	F
Q212	ES15X90	F
Q214	ES15X90	F
Q220	EP15X219	S
Q225	EP15X88	N
Q230	ES15X90	F

DIODES

Y126	EP57X4	F
Y127	EP16X72	Z
Y202	EP16X153	Z
Y214	ES16X27	S
Y218	EP16X152	Z
Y226	EP16X32	Z
Y232	EP16X153	Z
Y234	ES16X27	S
Y235	ES16X27	S

COILS

L169	EP36X307	S
L179	EP36X136	C

POWER SUPPLY INTE

REF NO.	PART NO.
RESISTORS	
★ R128	EP14X48
R129	ES14X58
R130	EP14X105
TRANSISTO	
Q100	ES15X125
DIODES	
Y129	EP16X155
Y130	EP57X5

S

P, Silicon
N, Silicon
N, Silicon
, Bipolar
N, Silicon
P, Silicon
P, Silicon
P, Silicon
N, Silicon
P, Silicon
N, Silicon
P, Silicon
P, Silicon
icon
N, Silicon
P, Silicon

ctifer, Silicon
ier
ier
nal, Silicon
ier
ier
ier
con
con

ing Coil
ke - 15uh, 10%

FACE (TB-28)

DESCRIPTION

10 ohm, 5%, 2W, Metal Oxide
470 ohm, 5%, ¼W, Carbon
100K ohm 5%, ¼W, Carbon

NPN, Silicon

Zener
Rectifier

TROUBLESHOOTING HINTS

GENERAL:

BEFORE CHECKING ANYTHING ELSE, CHECK ALL SUPPLY VOLTAGES. DON'T BE MISLED BY THE FACT THAT CIRCUITS WITH THE SAME SUPPLY ARE WORKING. SOME CIRCUITS ARE MORE SENSITIVE TO CHANGES IN SUPPLY VOLTAGE THAN OTHERS.

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, gates, or the Microproessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, latches, drivers, or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL (IC50 and associated circuitry) could also be at fault.

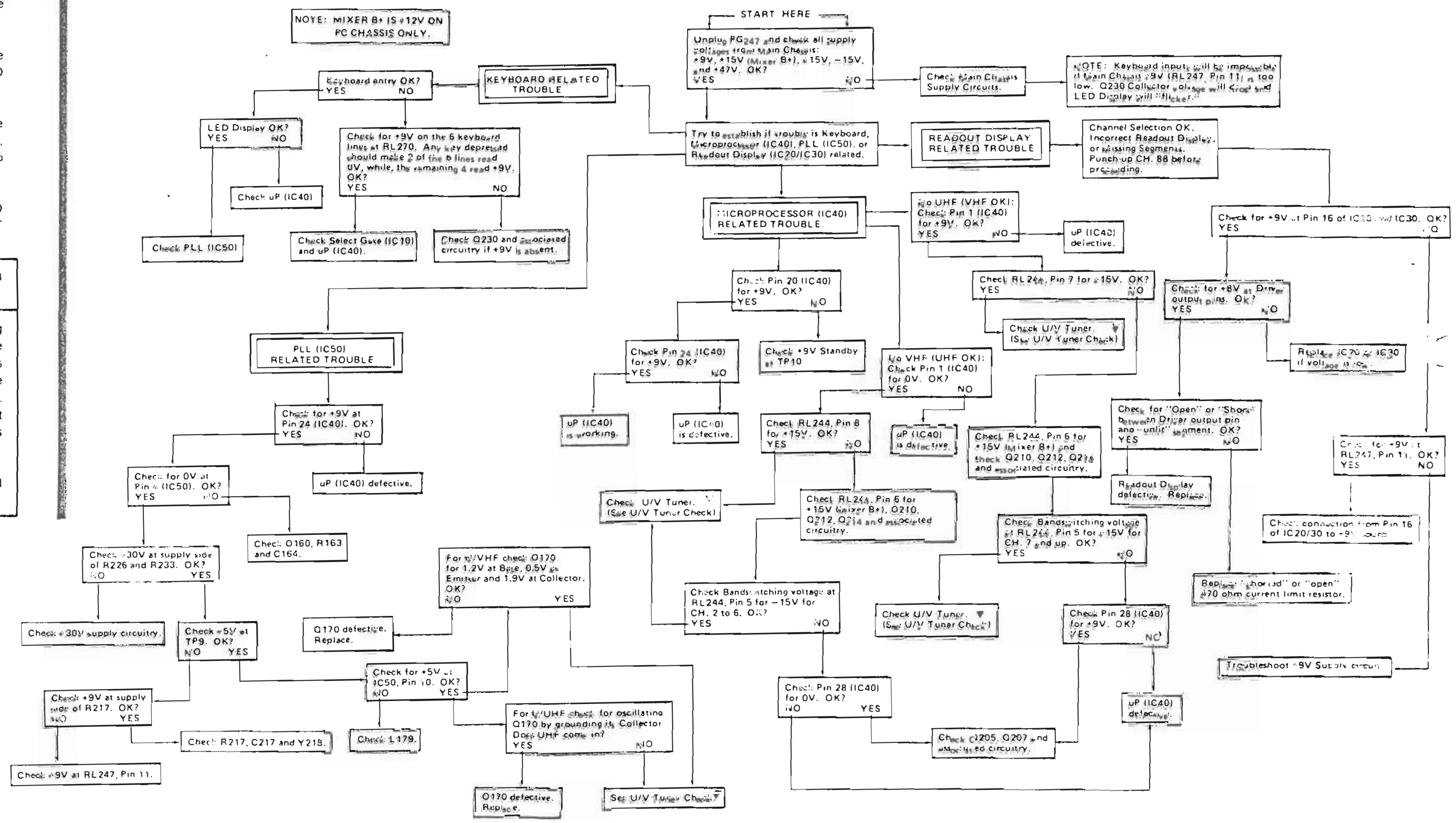
Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED TO THE KMP91 ELECTRONIC TUNING TROUBLESHOOTING CHART FOR POSSIBLE SOLUTION TO THE PROBLEM.

▼U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

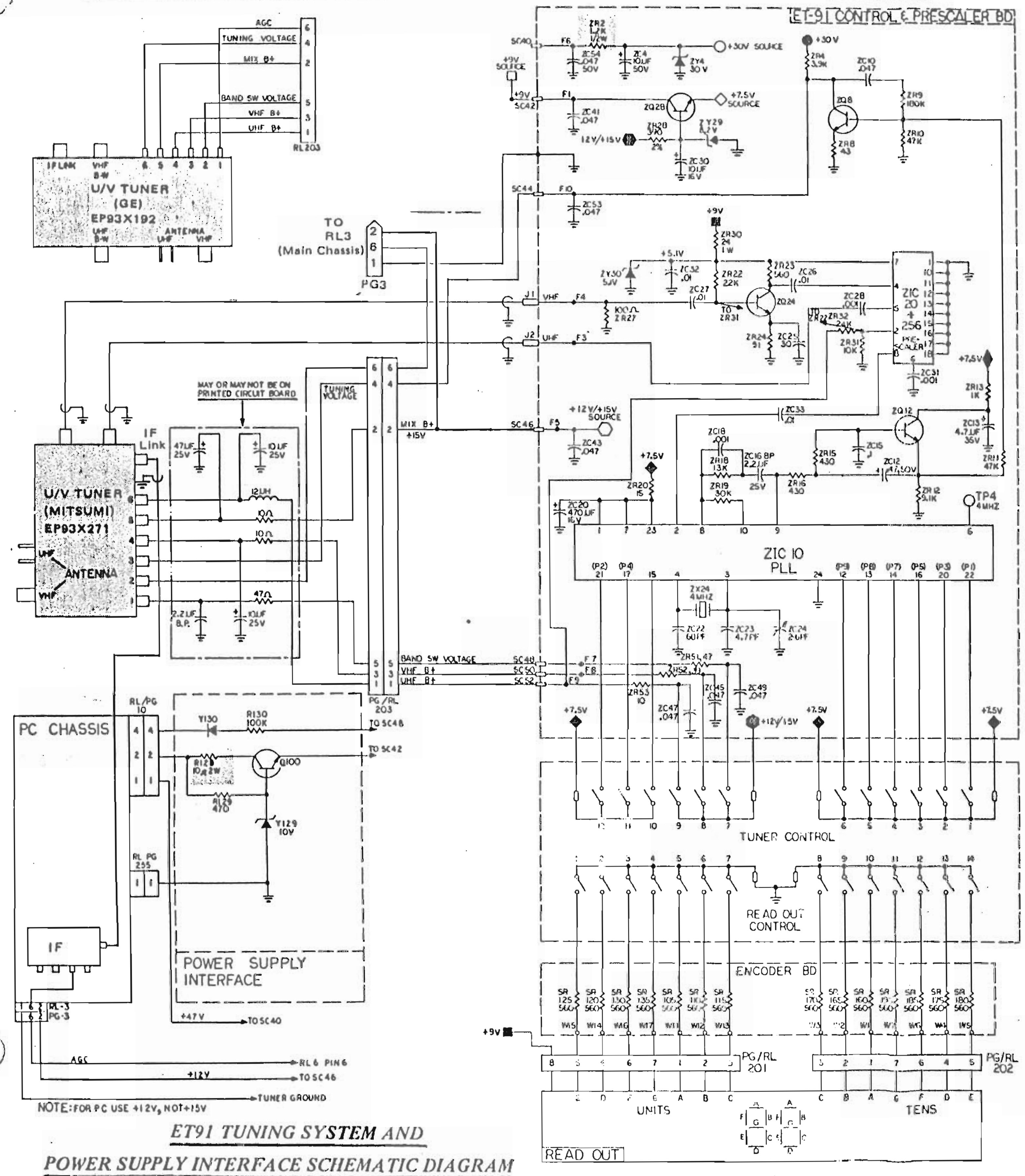
Measure tuning voltage at RL244, Pin 1, while entering the following Channels; CH.1=28V, 6=20V, 13=23V, 33=6.5V and 82=27V. The presence of these voltages indicate that the PLL (IC50) output is working. Enter in Channel 1 (28V at RL244, Pin 1) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC40) or the PLL (IC50).

KMP91 TROUBLESHOOTING CHART



ET91 ELECTRONIC TUNING SYSTEM w/PRESCALER TUNER CONTROL SWITCH



ET91 TUNING SYSTEM AND

POWER SUPPLY INTERFACE SCHEMATIC DIAGRAM

ET91 SWITCH TRUTH TABLES

0 = OPEN 1 = CLOSED

TUNER CONTROL POSITION (12 11 10 9 8 7 6 5 4 3 2 1)	CHANNEL	READ OUT CONTROL POSITION (14 13 12 11 10 9 8 7 6 5 4 3 2 1)
1 0 1 0 1 0 0 0 0 1 0 0	2	0 0 0 0 0 0 0 0 1 1 1 0 1 1
0 0 1 0 1 0 0 0 0 1 1 1	3	0 0 0 0 0 0 0 1 1 1 1 0 1 0
0 1 1 0 1 0 0 0 0 1 0 0	4	0 0 0 0 0 0 0 1 1 0 1 1 0 0
0 1 1 0 1 0 0 0 0 1 1 1	5	0 0 0 0 0 0 0 1 0 1 1 1 1 0
0 0 0 0 1 0 0 0 1 0 0 0	6	0 0 0 0 0 0 0 1 0 1 1 1 1 1
1 1 1 0 1 1 0 0 1 0 1 0	7	0 0 0 0 0 0 0 1 1 1 0 0 0 0
0 0 1 0 1 1 0 0 1 1 0 1	8	0 0 0 0 0 0 0 1 1 1 1 1 1 1
0 0 1 0 1 1 0 0 1 1 1 0	9	0 0 0 0 0 0 0 1 1 1 1 1 1 0
1 0 1 0 1 1 0 0 1 1 1 1	10	0 0 0 0 0 1 1 1 1 1 0 1 1 1
1 1 1 0 1 1 0 0 1 1 0 0	11	0 0 0 0 0 1 1 1 1 0 0 0 0 0
0 1 1 0 1 1 0 0 1 1 1 1	12	0 0 0 0 0 1 1 0 1 1 1 0 1 1
0 0 0 0 1 1 0 1 0 0 0 0	13	0 0 0 0 0 1 1 1 1 1 1 0 1 0
1 0 0 1 0 1 1 0 0 0 0 0	14	0 0 0 0 0 1 1 1 1 0 1 1 0 0
0 0 0 1 0 1 1 0 0 0 1 1	15	0 0 0 0 0 1 1 1 0 1 1 1 1 0
0 1 0 1 0 1 1 0 0 0 0 0	16	0 0 0 0 0 1 1 1 0 1 1 1 1 1
1 1 0 1 0 1 1 0 0 0 0 1	17	0 0 0 0 0 1 1 1 1 1 0 0 0 0
1 1 0 1 0 1 1 0 0 0 1 0	18	0 0 0 0 0 1 1 1 1 1 1 1 1 1
0 0 0 1 0 1 1 0 0 1 0 1	19	0 0 0 0 0 1 1 1 1 1 1 1 1 0
0 0 0 1 0 1 1 0 0 1 1 0	20	1 1 0 1 1 1 0 1 1 1 0 1 1 1
1 0 0 1 0 1 1 0 0 1 1 1	21	1 1 0 1 1 1 0 1 1 0 0 0 0 0
1 1 0 1 0 1 1 0 0 1 0 0	22	1 1 0 1 1 1 0 0 1 1 1 0 1 1
0 1 0 1 0 1 1 0 0 1 1 1	23	1 1 0 1 1 1 0 1 1 1 1 0 1 0
0 0 1 1 0 1 1 0 0 0 0 0	24	1 1 0 1 1 1 0 1 1 0 1 1 0 0
1 0 1 1 0 1 1 0 0 0 0 1	25	1 1 0 1 1 1 0 1 0 1 1 1 1 0
1 0 1 1 0 1 1 0 0 0 1 0	26	1 1 0 1 1 1 0 1 0 1 1 1 1 1
0 1 1 1 0 1 1 0 0 0 0 1	27	1 1 0 1 1 1 0 1 1 1 0 0 0 0
0 1 1 1 0 1 1 0 0 0 1 0	28	1 1 0 1 1 1 0 1 1 1 1 1 1 1
1 1 1 1 0 1 1 0 0 0 1 1	29	1 1 0 1 1 1 0 1 1 1 1 1 1 0
1 0 1 1 0 1 1 0 0 1 0 0	30	0 1 0 1 1 1 1 1 1 1 0 1 1 1
0 0 1 1 0 1 1 0 0 1 1 1	31	0 1 0 1 1 1 1 1 1 0 0 0 0 0
0 1 1 1 0 1 1 0 0 1 0 0	32	0 1 0 1 1 1 1 0 1 1 1 0 1 1
1 1 1 1 0 1 1 0 0 1 0 1	33	0 1 0 1 1 1 1 1 1 1 1 0 1 0
1 1 1 1 0 1 1 0 0 1 1 0	34	0 1 0 1 1 1 1 1 1 0 1 1 0 0
0 0 0 1 0 1 1 0 1 0 0 1	35	0 1 0 1 1 1 1 1 0 1 1 1 1 0
0 0 0 1 0 1 1 0 1 0 1 0	36	0 1 0 1 1 1 1 1 0 1 1 1 1 1
1 0 0 1 0 1 1 0 1 0 1 1	37	0 1 0 1 1 1 1 1 1 1 0 0 0 0
1 1 0 1 0 1 1 0 1 0 0 0	38	0 1 0 1 1 1 1 1 1 1 1 1 1 1
0 1 0 1 0 1 1 0 1 0 1 1	39	0 1 0 1 1 1 1 1 1 1 1 1 1 0
0 0 0 1 0 1 1 0 1 1 0 0	40	0 0 1 1 0 1 1 1 1 1 0 1 1 1
1 0 0 1 0 1 1 0 1 1 0 1	41	0 0 1 1 0 1 1 1 1 0 0 0 0 0
1 0 0 1 0 1 1 0 1 1 1 0	42	0 0 1 1 0 1 1 0 1 1 1 0 1 1
0 1 0 1 0 1 1 0 1 1 0 1	43	0 0 1 1 0 1 1 1 1 1 1 0 1 0
0 1 0 1 0 1 1 0 1 1 1 0	44	0 0 1 1 0 1 1 1 1 0 1 1 0 0
1 1 0 1 0 1 1 0 1 1 1 1	45	0 0 1 1 0 1 1 1 0 1 1 1 1 0
1 0 1 1 0 1 1 0 1 0 0 0	46	0 0 1 1 0 1 1 1 0 1 1 1 1 1
0 0 1 1 0 1 1 0 1 0 1 1	47	0 0 1 1 0 1 1 1 1 1 0 0 0 0

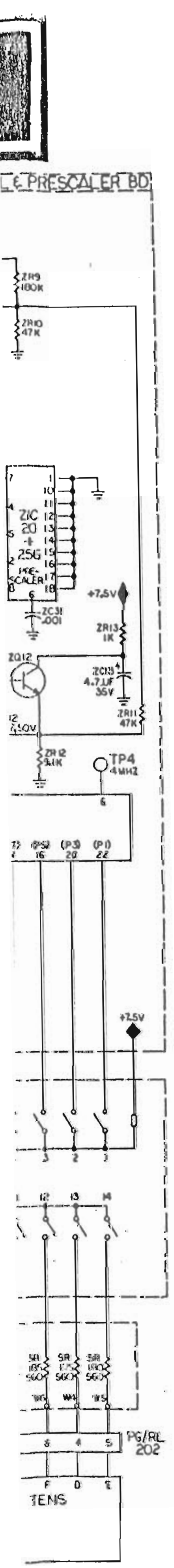
TUNER CONTROL POSITION (12 11 10 9 8 7 6 5 4 3 2 1)	CHANNEL	READ OUT CONTROL POSITION (14 13 12 11 10 9 8 7 6 5 4 3 2 1)
0 1 1 1 0 1 1 0 1 0 0 0	48	0 0 1 1 0 1 1 1 1 1 1 1 1 1
1 1 1 1 0 1 1 0 1 0 0 1	49	0 0 1 1 0 1 1 1 1 1 1 1 1 0
1 1 1 1 0 1 1 0 1 0 1 0	50	0 1 1 1 1 0 1 1 1 1 0 1 1 1
0 0 1 1 0 1 1 0 1 1 0 1	51	0 1 1 1 1 0 1 1 1 0 0 0 0 0
0 0 1 1 0 1 1 0 1 1 1 0	52	0 1 1 1 1 0 1 0 1 1 1 0 1 1
1 0 1 1 0 1 1 0 1 1 1 1	53	0 1 1 1 1 0 1 1 1 1 1 0 1 0
1 1 1 1 0 1 1 0 1 1 0 0	54	0 1 1 1 1 0 1 1 1 0 1 1 0 0
0 1 1 1 0 1 1 0 1 1 1 1	55	0 1 1 1 1 0 1 1 0 1 1 1 1 0
0 0 0 1 0 1 1 1 0 0 0 0	56	0 1 1 1 1 0 1 1 0 1 1 1 1 1
1 0 0 1 0 1 1 1 0 0 0 1	57	0 1 1 1 1 0 1 1 1 1 0 0 0 0
1 0 0 1 0 1 1 1 0 0 1 0	58	0 1 1 1 1 0 1 1 1 1 1 1 1 1
0 1 0 1 0 1 1 1 0 0 0 1	59	0 1 1 1 1 0 1 1 1 1 1 1 1 0
0 1 0 1 0 1 1 1 0 0 1 0	60	1 1 1 1 1 0 1 1 1 1 0 1 1 1
1 1 0 1 0 1 1 1 0 0 1 1	61	1 1 1 1 1 0 1 1 1 0 0 0 0 0
1 0 0 1 0 1 1 1 0 1 0 0	62	1 1 1 1 1 0 1 0 1 1 1 0 1 1
0 0 0 1 0 1 1 1 0 1 1 1	63	1 1 1 1 1 0 1 1 1 1 1 0 1 0
0 1 0 1 0 1 1 1 0 1 0 0	64	1 1 1 1 1 0 1 1 1 0 1 1 0 0
1 1 0 1 0 1 1 1 0 1 0 1	65	1 1 1 1 1 0 1 1 0 1 1 1 1 0
1 1 0 1 0 1 1 1 0 1 1 0	66	1 1 1 1 1 0 1 1 0 1 1 1 1 1
0 0 1 1 0 1 1 1 0 0 0 1	67	1 1 1 1 1 0 1 1 1 1 0 0 0 0
0 0 1 1 0 1 1 1 0 0 1 0	68	1 1 1 1 1 0 1 1 1 1 1 1 1 1
1 0 1 1 0 1 1 1 0 0 1 1	69	1 1 1 1 1 0 1 1 1 1 1 1 1 0
1 1 1 1 0 1 1 1 0 0 0 0	70	0 0 0 0 1 1 1 1 1 1 0 1 1 1
0 1 1 1 0 1 1 1 0 0 1 1	71	0 0 0 0 1 1 1 1 1 0 0 0 0 0
0 0 1 1 0 1 1 1 0 1 0 0	72	0 0 0 0 1 1 1 0 1 1 1 0 1 1
1 0 1 1 0 1 1 1 0 1 0 1	73	0 0 0 0 1 1 1 1 1 1 1 0 1 0
1 0 1 1 0 1 1 1 0 1 1 0	74	0 0 0 0 1 1 1 1 1 0 1 1 0 0
0 1 1 1 0 1 1 1 0 1 0 1	75	0 0 0 0 1 1 1 1 0 1 1 1 1 0
0 1 1 1 0 1 1 1 0 1 1 0	76	0 0 0 0 1 1 1 1 0 1 1 1 1 1
1 1 1 1 0 1 1 1 0 1 1 1	77	0 0 0 0 1 1 1 1 1 1 0 0 0 0
1 0 0 1 0 1 1 1 1 0 0 0	78	0 0 0 0 1 1 1 1 1 1 1 1 1 1
0 0 0 1 0 1 1 1 1 0 1 1	79	0 0 0 0 1 1 1 1 1 1 1 1 1 0
0 1 0 1 0 1 1 1 1 0 0 0	80	1 1 1 1 1 1 1 1 1 1 0 1 1 1
1 1 0 1 0 1 1 1 1 0 0 1	81	1 1 1 1 1 1 1 1 1 0 0 0 0 0
1 1 0 1 0 1 1 1 1 0 1 0	82	1 1 1 1 1 1 1 0 1 1 1 0 1 1
0 0 0 1 0 1 1 1 1 1 0 1	83	1 1 1 1 1 1 1 1 1 1 1 0 1 0
1 0 0 0 1 1 0 0 1 1 0 1	84	1 1 1 1 1 1 1 0 0 1 1 0 1 1
1 0 0 0 1 1 0 0 1 1 1 0	85	1 1 1 1 1 1 1 0 1 1 1 1 0 1
0 1 0 0 1 1 0 0 1 1 0 1	86	1 1 1 1 1 1 1 1 1 1 1 1 0 1
0 1 0 0 1 1 0 0 1 1 1 0	87	1 1 1 1 1 1 1 0 0 0 0 1 1 1
1 1 0 0 1 1 0 0 1 1 1 1	88	1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 0 1 0 1 1 0 0 1 0 0 0	89	1 1 1 1 1 1 1 0 1 1 1 1 1 1
0 0 1 0 1 1 0 0 1 0 1 1	90	0 1 1 1 1 1 1 1 1 1 0 1 1 1
0 1 1 0 1 1 0 0 1 0 0 0	91	0 1 1 1 1 1 1 0 0 0 0 0 1 1
1 1 1 0 1 1 0 0 1 0 0 1	92	0 1 1 1 1 1 1 1 1 0 1 1 1 0

SYMPTOM
NO VIDEO, SNO MISSING CHANN ETC

* Troublest main cha

SYMPTOM
CHANNEL NUMB WILL NOT LIGHT ARE MISSING

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.



ET91 SWITCH TRUTH TABLES

0 = OPEN 1 = CLOSED

TUNER CONTROL POSITION												CHANNEL	READ OUT CONTROL POSITION													
12	11	10	9	8	7	6	5	4	3	2	1	↓	14	13	12	11	10	9	8	7	6	5	4	3	2	1
1	0	1	0	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	1	1	1	0	1	1
0	0	1	0	1	0	0	0	0	1	1	1	3	0	0	0	0	0	0	0	1	1	1	1	0	1	0
0	1	1	0	1	0	0	0	0	1	0	0	4	0	0	0	0	0	0	0	1	1	0	1	1	0	0
0	1	1	0	1	0	0	0	0	1	1	1	5	0	0	0	0	0	0	0	1	0	1	1	1	1	0
0	0	0	0	1	0	0	0	1	0	0	0	6	0	0	0	0	0	0	0	1	0	1	1	1	1	1
1	1	1	0	1	1	0	0	1	0	1	0	7	0	0	0	0	0	0	0	1	1	1	0	0	0	0
0	0	1	0	1	1	0	0	1	1	0	1	8	0	0	0	0	0	0	0	1	1	1	1	1	1	1
0	0	1	0	1	1	0	0	1	1	1	0	9	0	0	0	0	0	0	0	1	1	1	1	1	1	0
1	0	1	0	1	1	0	0	1	1	1	1	10	0	0	0	0	0	1	1	1	1	1	0	1	1	1
1	1	1	0	1	1	0	0	1	1	0	0	11	0	0	0	0	0	1	1	1	1	0	0	0	0	0
0	1	1	0	1	1	0	0	1	1	1	1	12	0	0	0	0	0	1	1	0	1	1	1	0	1	1
0	0	0	0	1	1	0	1	0	0	0	0	13	0	0	0	0	0	1	1	1	1	1	1	0	1	0
1	0	0	1	0	1	1	0	0	0	0	0	14	0	0	0	0	0	1	1	1	1	0	1	1	0	0
0	0	0	1	0	1	1	0	0	0	1	1	15	0	0	0	0	0	1	1	1	0	1	1	1	1	0
0	1	0	1	0	1	1	0	0	0	0	0	16	0	0	0	0	0	1	1	1	0	1	1	1	1	1
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0	0	0	1	0	1	1	0	0	1	0	1	19	0	0	0	0	0	1	1	1	1	1	1	1	1	0
0	0	0	1	0	1	1	0	0	1	1	0	20	1	1	0	1	1	1	0	1	1	1	0	1	1	1
1	0	0	1	0	1	1	0	0	1	1	1	21	1	1	0	1	1	1	0	1	1	0	0	0	0	0
1	1	0	1	0	1	1	0	0	1	0	0	22	1	1	0	1	1	1	0	0	1	1	1	0	1	1
0	1	0	1	0	1	1	0	0	1	1	1	23	1	1	0	1	1	1	0	1	1	1	1	0	1	0
0	0	1	1	0	1	1	0	0	0	0	0	24	1	1	0	1	1	1	0	1	1	0	1	1	0	0
1	0	1	1	0	1	1	0	0	0	0	1	25	1	1	0	1	1	1	0	1	0	1	1	1	1	0
1	0	1	1	0	1	1	0	0	0	1	0	26	1	1	0	1	1	1	0	1	0	1	1	1	1	1
0	1	1	1	0	1	1	0	0	0	0	1	27	1	1	0	1	1	1	0	1	1	1	0	0	0	0
0	1	1	1	0	1	1	0	0	0	1	0	28	1	1	0	1	1	1	0	1	1	1	1	1	1	1
1	1	1	1	0	1	1	0	0	0	1	1	29	1	1	0	1	1	1	0	1	1	1	1	1	1	0
1	0	1	1	0	1	1	0	0	1	0	0	30	0	1	0	1	1	1	1	1	1	1	0	1	1	1
0	0	1	1	0	1	1	0	0	1	1	1	31	0	1	0	1	1	1	1	1	1	0	0	0	0	0
0	1	1	1	0	1	1	0	0	1	0	0	32	0	1	0	1	1	1	1	0	1	1	1	0	1	1
1	1	1	1	0	1	1	0	0	1	0	1	33	0	1	0	1	1	1	1	1	1	1	1	0	1	0
1	1	1	1	0	1	1	0	0	1	1	0	34	0	1	0	1	1	1	1	1	1	0	1	1	0	0
0	0	0	1	0	1	1	0	1	0	0	1	35	0	1	0	1	1	1	1	1	0	1	1	1	1	0
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TUNER CONTROL POSITION												CHANNEL	READ OUT CONTROL POSITION													
12	11	10	9	8	7	6	5	4	3	2	1	↓	14	13	12	11	10	9	8	7	6	5	4	3	2	1
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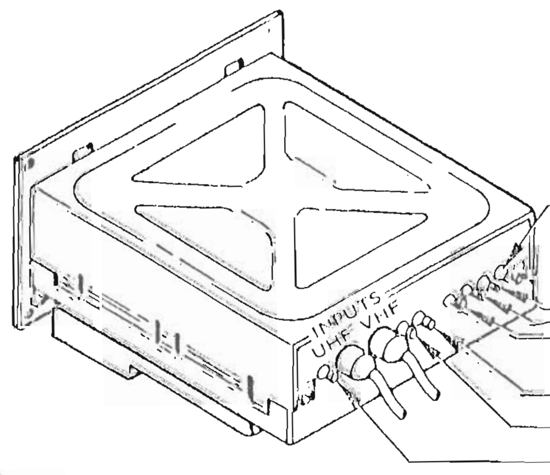
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (⚠) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (⚠) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

ET91 TUNING SYSTEM TROUBLESHOOTING CHART

SYMPTOM	PROBABLE CAUSE	TROUBLESHOOTING PROCEDURE
NO VIDEO, SNOW, MISSING CHANNELS, ETC	MOST LIKELY – Loss of a B+ supply to the tuning system – IC10 — Located in the TUNER CONTROL AND SELECTOR SWITCH ASM. MODULE – TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE – UHF/VHF TUNER LEAST LIKELY	* 1 Measure B+ voltages to the tuning system. If the voltages are not correct go to the main chassis service information sheet and continue. 2 If B+ voltages are correct measure the tuning and tuner control voltages from the TUNER CONTROL ASSEMBLY to the TUNER. If the voltages are all correct the TUNER should be suspected next. 3 If the tuning voltage does not change when channels are selected IC10 is most likely at fault. If tuner control voltages are not correct the TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE is the most likely suspect.

* Troubleshoot the Power Supply Interface on the PC → Chassis before going to the main chassis. The Interface circuit modifies the main chassis B+ voltages for use by the ET91 Electronic Tuning System.

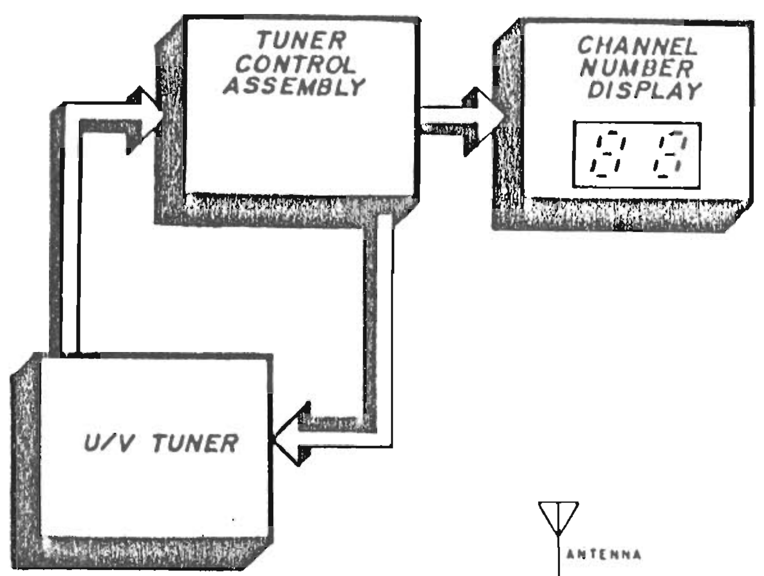
SYMPTOM	PROBABLE CAUSE	TROUBLESHOOTING PROCEDURE
CHANNEL NUMBER INDICATOR WILL NOT LIGHT — OR SEGMENTS ARE MISSING	MOST LIKELY – CHANNEL NUMBER INDICATOR – TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE LEAST LIKELY	1 Turn the channel selector to differently numbered channels – observe if all segments of the readout will light. EXAMPLE: An "8 digit" should light all seven segments of one side of the display. If the "8" digit can be made to appear on each of the dual readouts, then the TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE is defective. 2 If one or more segments refuse to light, then compare voltage and/or resistance readings of lighted segments to those of the missing ones. Comparative readings should identify either the CHANNEL NUMBER INDICATOR or TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE.

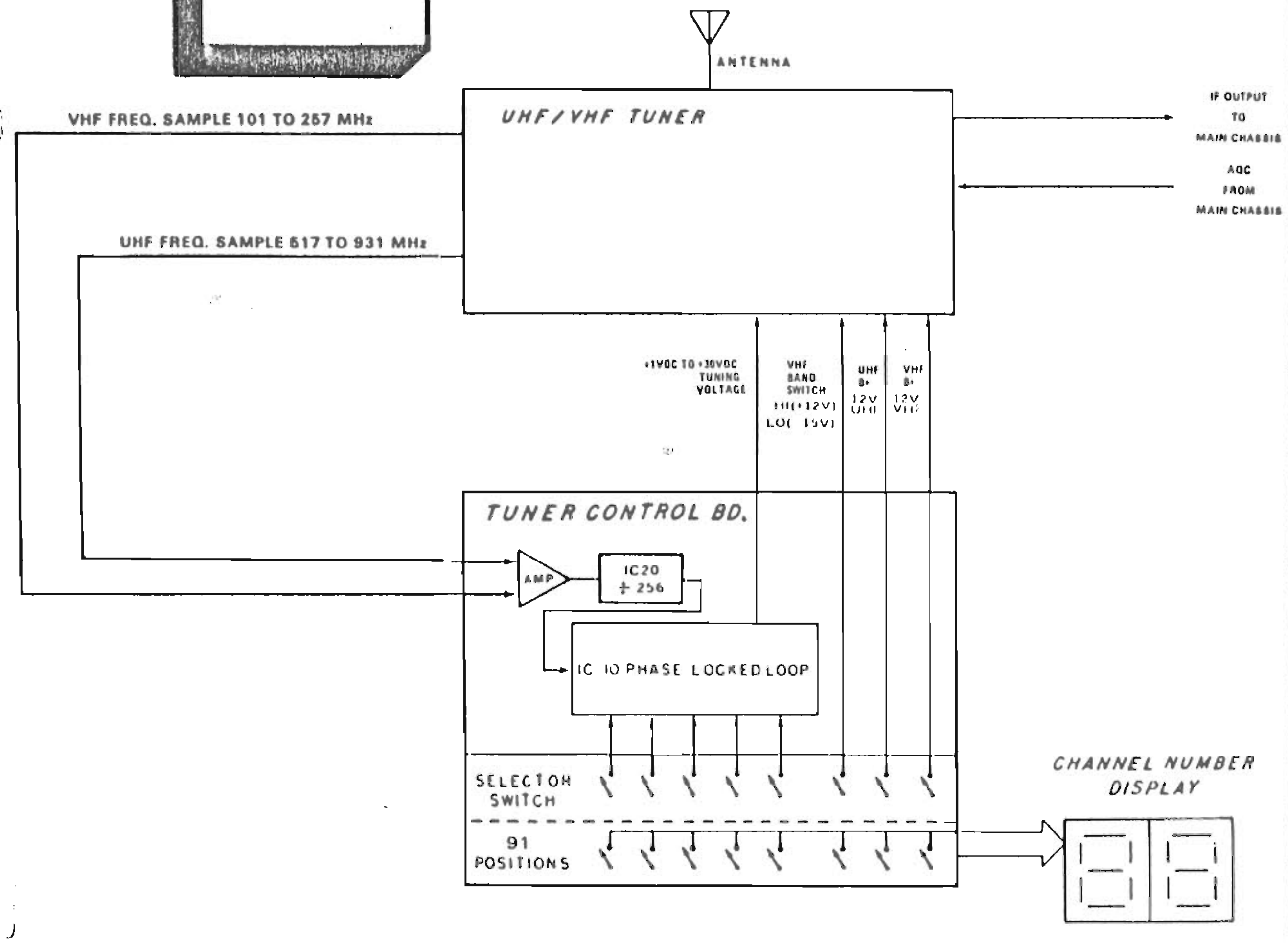


ET91 TUNER CONTROL VOLTAGE CHECK POINTS

ET91 ELECTRONIC TUNING SYSTEM w/PRESCALER TUNER CONTROL SWITCH

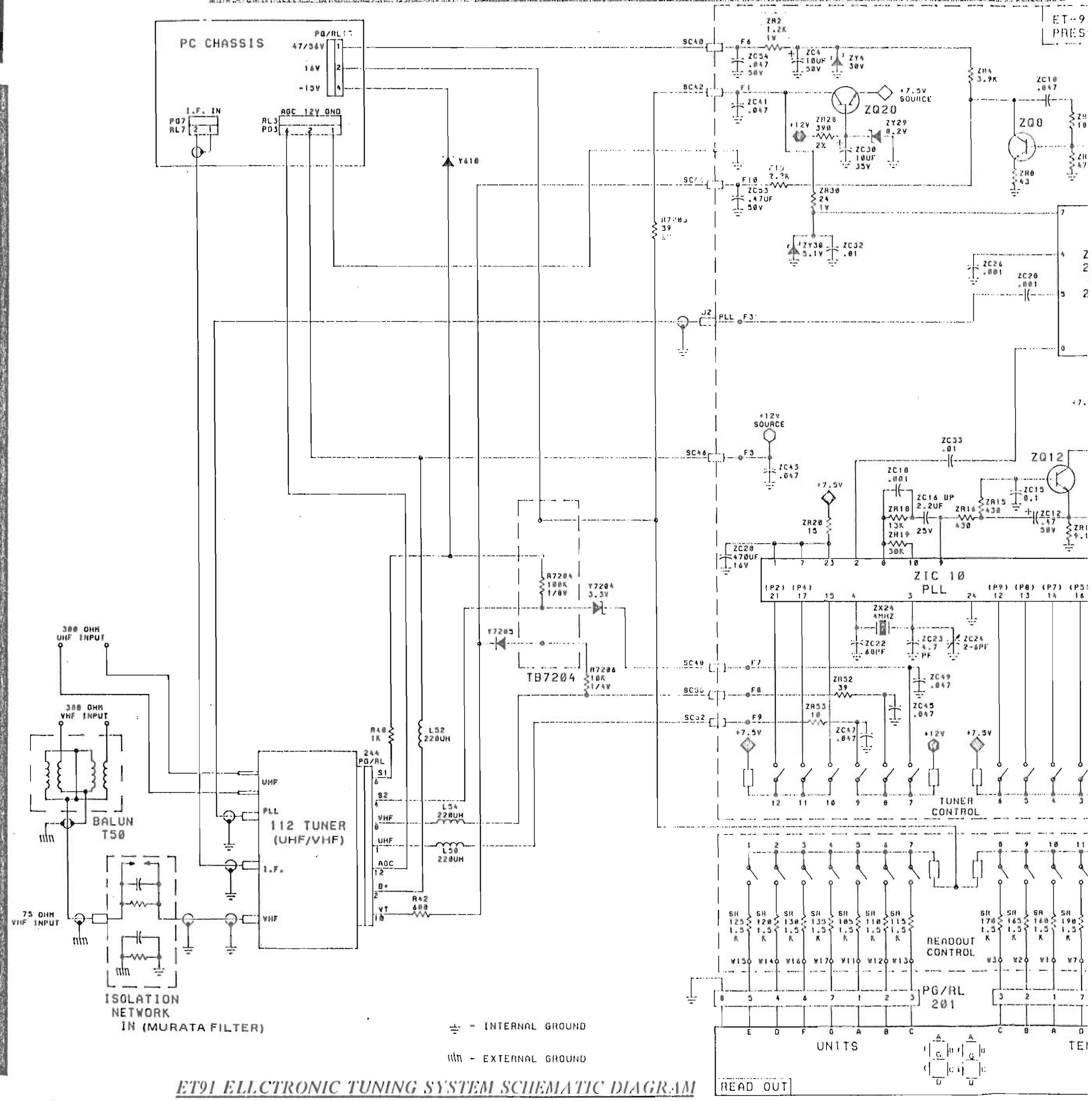
ET91 TUNING SYSTEM BLOCK DIAGRAMS





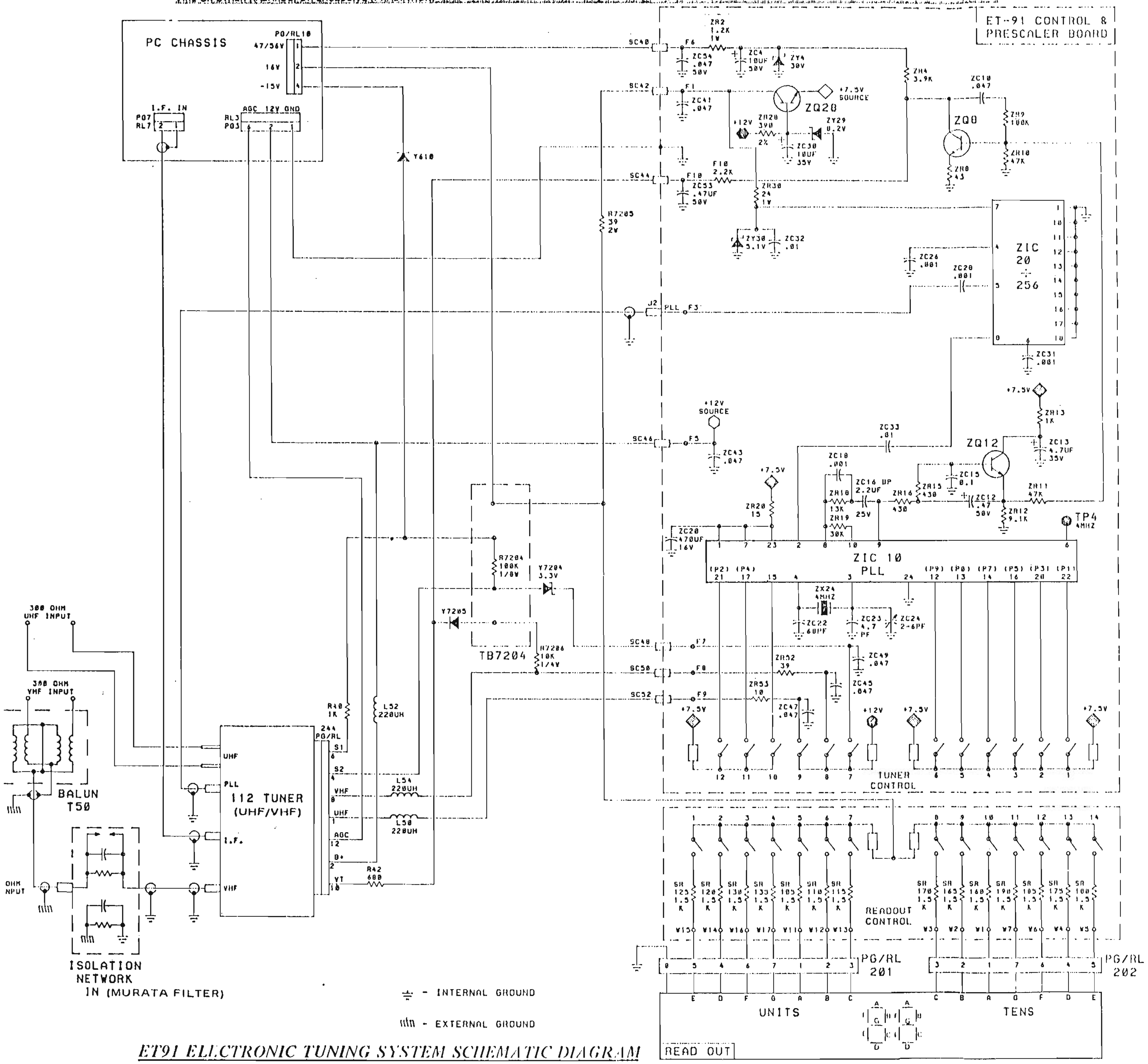
ET91 FUNCTIONAL BLOCK DIAGRAMS

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.



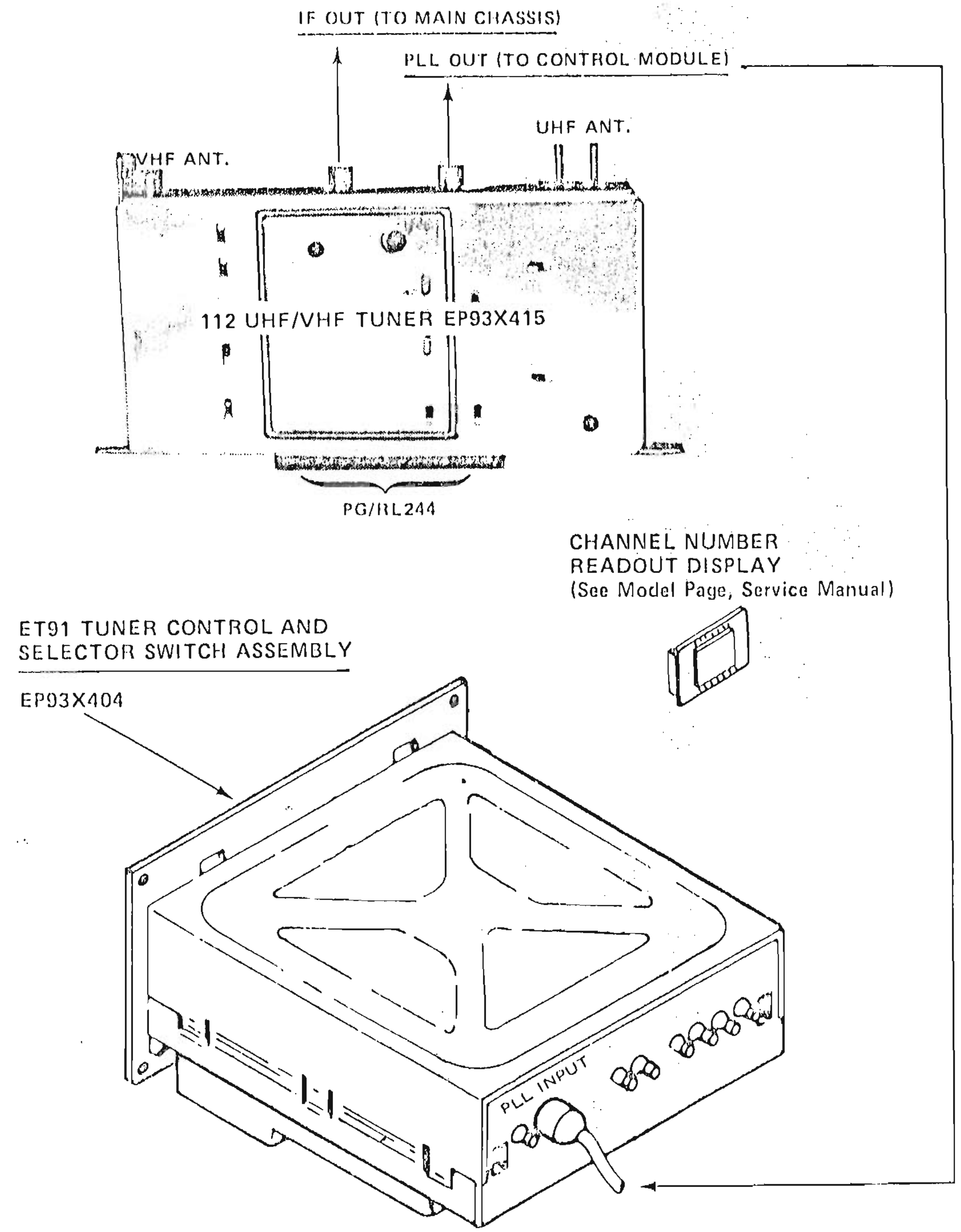
ET91 ELECTRONIC TUNING SYSTEM SCHEMATIC DIAGRAM

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (▲) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (▲) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.



ET91 ELECTRONIC TUNING SYSTEM SCHEMATIC DIAGRAM

ET91 TUNING SYSTEM COMPONENT ASSEMBLIES



ET91 TUNING SYSTEM COMPONENT ASSEMBLIES

ET91 ELECTRONIC TUNING SYSTEM REPLACEMENT PARTS LIST

ET91 CONTROL CIRCUIT BOARD ASM

EP93X404

PARTS NOT ON MODULES

CAPACITORS

REF NO.	PART NO.	DESCRIPTION
SC40	EU23X4	1000pf, 500V, Feed Thru
SC42	EU23X4	1000pf, 500V, Feed Thru
SC44	EU23X4	1000pf, 500V, Feed Thru
SC46	EU23X4	1000pf, 500V, Feed Thru
SC48	EU23X4	1000pf, 500V, Feed Thru
SC50	EU23X4	1000pf, 500V, Feed Thru
SC52	EU23X4	1000pf, 500V, Feed Thru

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R7204	EP14X105	100K ohm, 5%, 1/8W, Carbon
R7205	EP14X300	39 ohm, 5%, 2W, Metal Oxide
R7206	EP14X243	2.2K ohm, 5%, 1/4W, Carbon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y7204	EP16X29	Zener
Y7205	ES16X27	Silicon

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP2X375	CASE-Casing, Top & Bottom, Plastic (Middle Section) W/Detent Springs & Balls
	EP2X374	CAM-Encoder, Plastic
RL3	EP8X71	CONNECTOR-6 Pos.
RL10	EP8X94	CONNECTOR-4 Pos.
	EP93X407	ET91 Control Circuit Board
	EP93X406	ET91 Resistor Circuit Board
SJ01	EP8X23	JACK-Phono
	EP2X374	SHAFT-Channel Select, Plastic
	EP39X147	TUNER CONTACTS-W/Push Rods & Ret.
	★EP93X415	UHF/VHF TUNER

ET91 CONTROL CIRCUIT BOARD

EP93X407

CAPACITORS

REF NO.	PART NO.	DESCRIPTION
C04	EP31X35	10uf, +100-10%, 50V, Elect.
C10	EP25X87	.047uf, 20%, 50V, Polyester
C12	ES31X53	.47uf, +150-10%, 50V, Elect.
C13	EP31X11	4.7uf, +150-10%, 35V, Elect.
C15	EP25X77	.1uf, 20%, 50V, Polyester
C16	EP31X39	2.2uf, 20%, 25V, Elect.
C18	EP18X197	1000pf, 10%, 50V, Cer. Disc
C20	EP31X31	470uf, +100-10%, 16V, Elect.
C22	EP18X191	68pf, 5%, 50V, Cer. Disc
C23	EP18X46	4.7pf, 10%, 50V, Cer. Disc
C24	EP30X3	2pf - 6pf, 50V, Trimmer
C26	EP18X220	1000pf, 10%, 1KV, Cer. Disc
C28	EP18X220	1000pf, 10%, 1KV, Cer. Disc
C30	EP31X35	10uf, +100-10%, 16V, Elect.
C31	EP18X144	1000pf, +80-20%, Cer. No Leads
C32	EP18X262	.01uf, 10%, 50V, Cer. Disc
C33	EP18X169	.01uf, 30%, 25V, Cer. Disc
C41	EP25X87	.047uf, 20%, 50V, Polyester
C43	EP25X87	.047uf, 20%, 50V, Polyester
C45	EP25X87	.047uf, 20%, 50V, Polyester
C47	EP25X87	.047uf, 20%, 50V, Polyester
C49	EP25X87	.047uf, 20%, 50V, Polyester
C53	ES31X53	.47uf, +150-10%, 50V, Elect.
C54	EP25X155	.047uf, 20%, 100V, Polyester

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
F7	ES14X51	47 ohm, 5%, 1/4W, Carbon
F8	Common	39 ohm, 5%, 1/4W, Carbon
F9	Common	10 ohm, 5%, 1/4W, Carbon
F10	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
★ R02	Common	1.2K ohm, 5%, 1W, Carbon
R04	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R08	Common	43 ohm, 5%, 1/8W, Carbon
R09	EP14X196	180K ohm, 5%, 1/8W, Carbon
R10	EP14X125	47K ohm, 5%, 1/8W, Carbon
R11	EP14X125	47K ohm, 5%, 1/8W, Carbon
R12	Common	9.1K ohm, 5%, 1/8W, Carbon
R13	ES14X71	1K ohm, 5%, 1/8W, Carbon
R15	EP14X289	430 ohm, 5%, 1/8W, Carbon
R16	EP14X289	430 ohm, 5%, 1/8W, Carbon
R18	EP14X288	13K ohm, 5%, 1/8W, Carbon
R19	EP14X288	30K ohm, 5%, 1/8W, Carbon
R20	EP14X188	15 ohm, 5%, 1/8W, Carbon
R27	EP14X187	100 ohm, 5%, 1/8W, Carbon
R28	ES14X57	390 ohm, 5%, 1/4W, Carbon
R30	EP14X281	24 ohm, 5%, 1W, Carbon

REF. NO.
X24
IC10
IC20

REF. NO.
Q08
Q12
Q28

REF. NO.
Y04
Y29
Y30

REF. NO.
SR105
SR110
SR115
SR120
SR125
SR130
SR135
SR160
SR165
SR170
SR175
SR180
SR185
SR190

REF. NO.
RL201
RL202

PRODUCT SAFETY SHO
AREAS OF THE SCHEMA
PARTS BE USED FOR R
USE OF SUBSTITUTE RE
FIRE OR OTHER HAZAR

ET91 CONTROL CIRCUIT BOARD

EP93X407

CAPACITORS

REF NO.	PART NO.	DESCRIPTION
C04	EP31X35	10uf, +100-10%, 50V, Elect.
C10	EP25X87	.047uf, 20%, 50V, Polyester
C12	ES31X53	.47uf, +150-10%, 50V, Elect.
C13	EP31X11	4.7uf, +150-10%, 35V, Elect.
C15	EP25X77	.1uf, 20%, 50V, Polyester
C16	EP31X39	2.2uf, 20%, 25V, Elect.
C18	EP18X197	1000pf, 10%, 50V, Cer. Disc
C20	EP31X31	470uf, +100-10%, 16V, Elect.
C22	EP18X191	68pf, 5%, 50V, Cer. Disc
C23	EP18X46	4.7pf, 10%, 50V, Cer. Disc
C24	EP30X3	2pf - 6pf, 50V, Trimmer
C26	EP18X220	1000pf, 10%, 1KV, Cer. Disc
C28	EP18X220	1000pf, 10%, 1KV, Cer. Disc
C30	EP31X35	10uf, +100-10%, 16V, Elect.
C31	EP18X144	1000pf, +80-20%, Cer. No Leads
C32	EP18X262	.01uf, 10%, 50V, Cer. Disc
C33	EP18X169	.01uf, 30%, 25V, Cer. Disc
C41	EP25X87	.047uf, 20%, 50V, Polyester
C43	EP25X87	.047uf, 20%, 50V, Polyester
C45	EP25X87	.047uf, 20%, 50V, Polyester
C47	EP25X87	.047uf, 20%, 50V, Polyester
C49	EP25X87	.047uf, 20%, 50V, Polyester
C53	ES31X53	.47uf, +150-10%, 50V, Elect.
C54	EP25X155	.047uf, 20%, 100V, Polyester

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
F7	ES14X51	47 ohm, 5%, 1/4W, Carbon
F8	Common	39 ohm, 5%, 1/4W, Carbon
F9	Common	10 ohm, 5%, 1/4W, Carbon
F10	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
★R02	Common	1.2K ohm, 5%, 1W, Carbon
R04	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R08	Common	43 ohm, 5%, 1/8W, Carbon
R09	EP14X196	180K ohm, 5%, 1/8W, Carbon
R10	EP14X125	47K ohm, 5%, 1/8W, Carbon
R11	EP14X125	47K ohm, 5%, 1/8W, Carbon
R12	Common	9.1K ohm, 5%, 1/8W, Carbon
R13	ES14X71	1K ohm, 5%, 1/8W, Carbon
R15	EP14X289	430 ohm, 5%, 1/8W, Carbon
R16	EP14X289	430 ohm, 5%, 1/8W, Carbon
R18	EP14X288	13K ohm, 5%, 1/8W, Carbon
R19	EP14X288	30K ohm, 5%, 1/8W, Carbon
R20	EP14X188	15 ohm, 5%, 1/8W, Carbon
R27	EP14X187	100 ohm, 5%, 1/8W, Carbon
R28	ES14X57	390 ohm, 5%, 1/4W, Carbon
R30	EP14X281	24 ohm, 5%, 1W, Carbon

INTEGRATED CIRCUITS

REF. NO.	PART NO	DESCRIPTION
X24	EP41X68	CRYSTAL-Quartz
IC10	EP84X61	PLL/Freq. Syn.
IC20	EP84X113	Prescaler W/Preamp

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q08	EP15X89	NPN, Silicon
Q12	EP15X88	NPN, Silicon
Q28	EP15X25	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y04	EP16X32	Zener
Y29	EP16X146	Zener
Y30	EP16X19	Zener

ET91 RESISTOR CIRCUIT BOARD

EP93X406

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
SR105	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR110	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR115	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR120	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR125	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR130	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR135	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR160	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR165	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR170	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR175	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR180	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR185	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR190	ES14X62	1.5K ohm, 5%, 1/4W, Carbon

MISCELLANEOUS

REF. NO	PART NO	DESCRIPTION
RL201	EP8X40	CONNECTOR-9 Pins
RL202	EP8X40	CONNECTOR-9 Pins

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

19"/25" PC-CHASSIS

SUPPLEMENT
MINI-MANUAL
SERVICE INFORMATION FOR TECHNICIAN USE ONLY
ACCESSIBLE FROM INSIDE TV SET ONLY

73E262659-1

2 WATT STEREO AMPLIFIER
STEREO/BILINGUAL DECODER

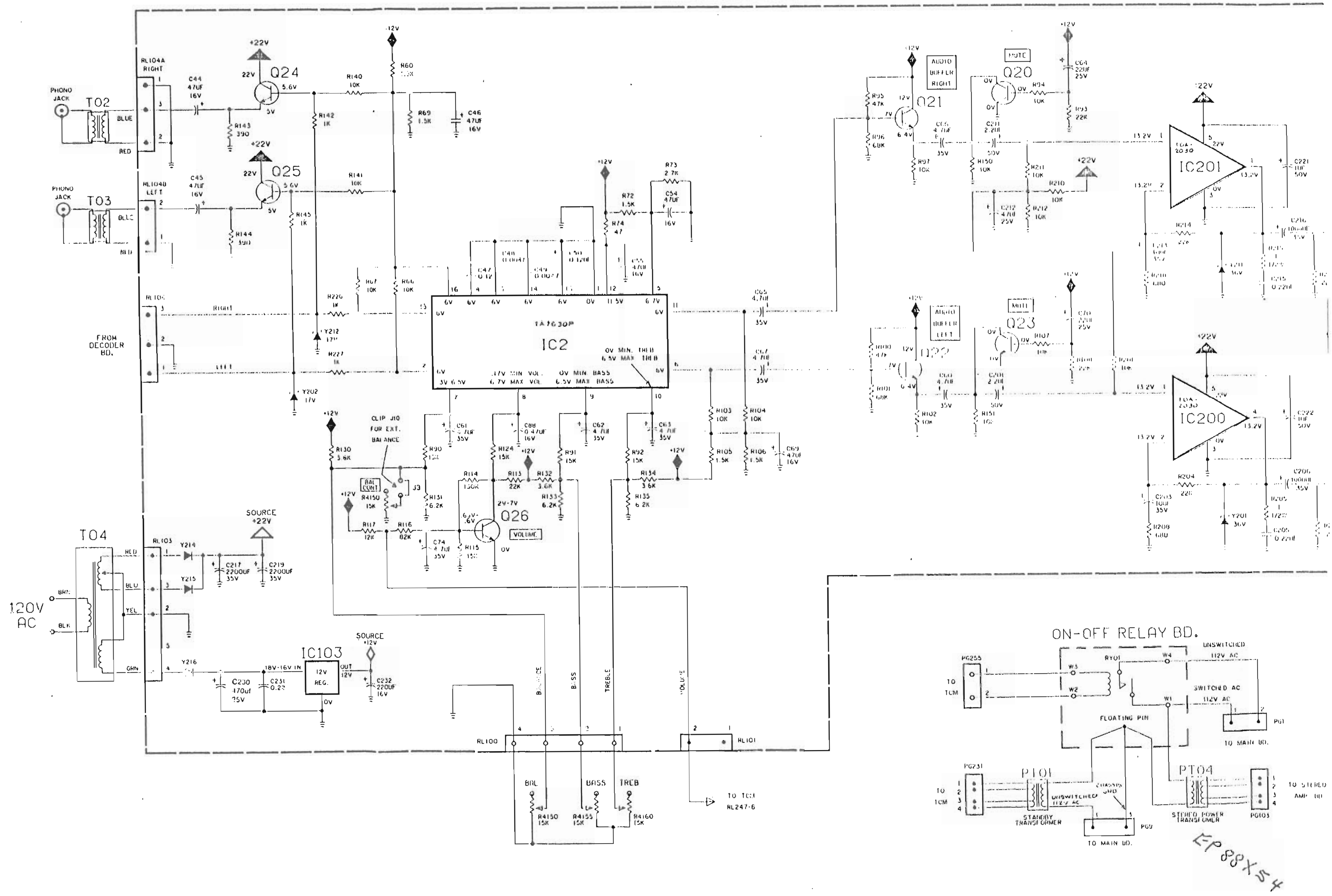
NOTICE TO TECHNICIAN:

THIS MINI MANUAL IS CUSTOMER PROPERTY PLEASE REPLACE IN SET WHEN SERVICING IS COMPLETED.

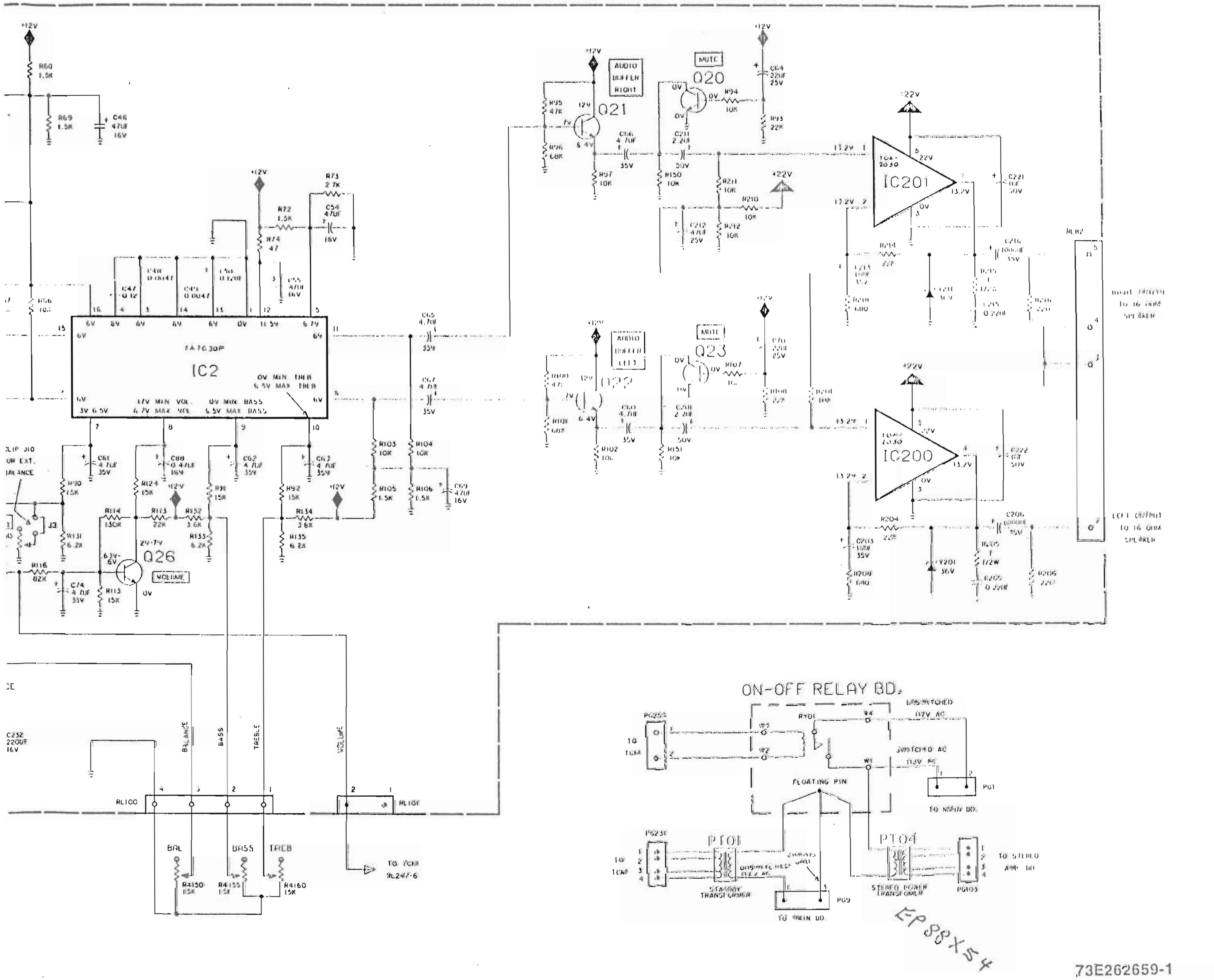
IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

2 WATT STEREO AMPLIFIER SCH



2 WATT STEREO AMPLIFIER SCHEMATIC DIAGRAM



PC-J

STEREO AMPLIFIER CIRCUIT BOARD

EP93X622

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
AC44	EP31X45	47μf, 20%, 25V, Elect.
AC45	EP31X45	47μf, 20%, 25V, Elect.
AC46	EP31X45	47μf, 20%, 25V, Elect.
AC47	EP25X168	.12μf, 10%, 50V, Polyester
AC48	EP25X165	4700pf, 10%, 50V, Polyester
AC49	EP25X165	4700pf, 10%, 50V, Polyester
AC50	EP25X168	.12μf, 10%, 50V, Polyester
AC54	EP31X45	47μf, 20%, 25V, Elect.
AC55	EP31X45	47μf, 20%, 25V, Elect.
AC60	EP31X170	4.7μf, 20%, 35V, Elect.
AC61	EP31X170	4.7μf, 20%, 35V, Elect.
AC62	EP31X170	4.7μf, 20%, 35V, Elect.
AC63	EP31X170	4.7μf, 20%, 35V, Elect.
AC64	EP31X172	22μf, 20%, 25V, Elect.
AC65	EP31X170	4.7μf, 20%, 35V, Elect.
AC66	EP31X170	4.7μf, 20%, 35V, Elect.
AC67	EP31X170	4.7μf, 20%, 35V, Elect.
AC69	EP31X45	47μf, 20%, 25V, Elect.
AC70	EP31X172	22μf, 20%, 25V, Elect.
AC74	EP31X170	4.7μf, 20%, 35V, Elect.
AC88	EP31X172	.47μf, 20%, 50V, Elect.
AC201	EP31X173	2.2μf, 20%, 50V, Elect.
AC203	EP31X149	10μf, 20%, 35V, Elect.
AC205	EP25X95	.22μf, 10%, 50V, Polyester
AC206	EP31X182	1000μf, 20%, 35V, Elect.
AC211	EP31X173	2.2μf, 20%, 50V, Elect.
AC212	EP31X45	47μf, 20%, 25V, Elect.
AC213	EP31X149	10μf, 20%, 35V, Elect.
AC215	EP25X95	.22μf, 10%, 50V, Polyester
AC216	EP31X182	1000μf, 20%, 35V, Elect.
AC217	EP31X111	2200μf, 20%, 35V, Elect.
AC219	EP31X111	2200μf, 20%, 35V, Elect.
AC221	EP31X166	1μf, 20%, 50V, Elect.
AC222	EP31X166	1μf, 20%, 50V, Elect.
AC230	EP31X177	470μf, 20%, 35V, Elect.
AC231	EP25X95	.22μf, 10%, 50V, Polyester
AC232	EP31X188	220μf, 20%, 25V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
AR60	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
AR66	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR67	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR69	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
AR72	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
AR73	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
AR74	ES14X51	47 ohm, 5%, 1/4W, Carbon
AR90	EP14X398	15K ohm, 5%, 1/4W, Carbon
AR91	EP14X398	15K ohm, 5%, 1/4W, Carbon
AR92	EP14X398	15K ohm, 5%, 1/4W, Carbon

AR93	EP14X104	22K ohm, %, 1/4W, Carbon
AR94	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR95	EP14X125	47K ohm, 5%, 1/4W, Carbon
AR96	EP14X119	68K ohm, 5%, 1/4W, Carbon
AR97	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR100	EP14X125	47K ohm, 5%, 1/4W, Carbon
AR101	EP14X119	68K ohm, 5%, 1/4W, Carbon
AR102	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR103	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR104	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR105	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
AR106	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
AR107	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR108	EP14X104	22K ohm, %, 1/4W, Carbon
AR113	EP14X104	22K ohm, %, 1/4W, Carbon
AR114	EP14X393	130K ohm, 5%, 1/4W, Carbon
AR115	EP14X398	15K ohm, 5%, 1/4W, Carbon
AR116	EP14X415	82K ohm, 5%, 1/4W, Carbon
AR117	EP14X413	12K ohm, 5%, 1/4W, Carbon
AR124	EP14X398	15K ohm, 5%, 1/4W, Carbon
AR130	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
AR131	EP14X394	6.2K ohm, 5%, 1/4W, Carbon
AR132	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
AR133	EP14X394	6.2K ohm, 5%, 1/4W, Carbon
AR134	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
AR135	EP14X394	6.2K ohm, 5%, 1/4W, Carbon
AR140	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR141	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR142	ES14X71	1K ohm, 5%, 1/4W, Carbon
AR143	ES14X57	390 ohm, 5%, 1/4W, Carbon
AR144	ES14X57	390 ohm, 5%, 1/4W, Carbon
AR145	ES14X71	1K ohm, 5%, 1/4W, Carbon
AR150	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR151	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR201	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR204	EP14X104	22K ohm, 5%, I/4W, Carbon
AR205	ES14X79	1 ohm, 5%, 1/2W, Carbon
AR206	EP14X318	220 ohm, 5%, 1/4W, Carbon
AR208	ES14X60	680 ohm, 5%, I/4W, Carbon
AR210	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR211	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR212	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR214	EP14X104	22K ohm, 5%, I/4W, Carbon
AR215	ES14X79	1 ohm, 5%, 1/2W, Carbon
AR216	EP14X318	220 ohm, 5%, 1/4W, Carbon
AR218	ES14X60	680 ohm, 5%, I/4W, Carbon
AR226	ES14X71	1K ohm, 5%, 1/4W, Carbon
AR227	ES14X71	1K ohm, 5%, 1/4W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1450	EP49X513	TRIMMER-10K ohm, 20%

INTEGRATED CIRCUITS

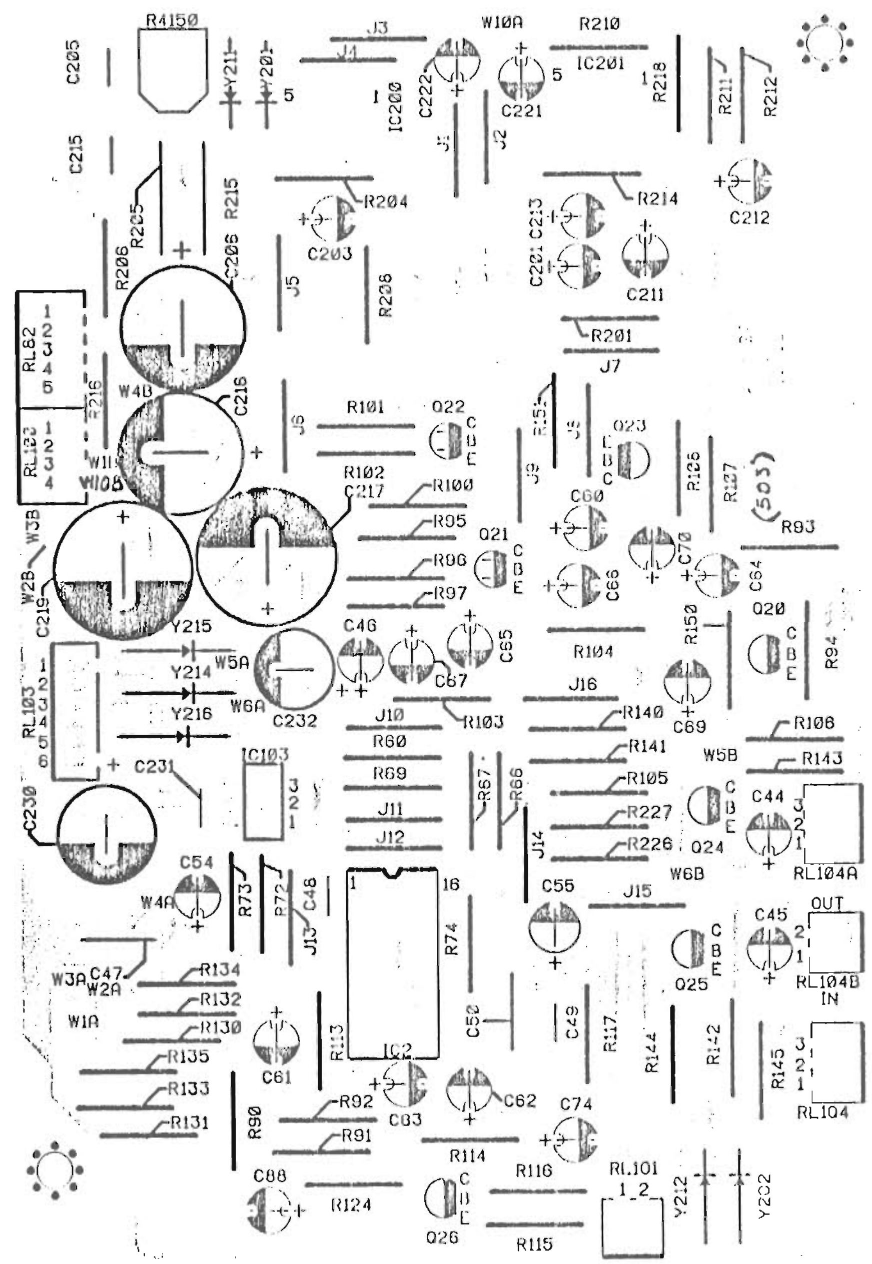
REF. NO.	PART NO.	DESCRIPTION
AIC02	EP84X229	VOL CONTROL
AIC103	EP84X217	3 TERMINAL VOL REGULATOR
AIC200	EP84X109	AUDIO POWER AMP
AIC201	EP84X109	AUDIO POWER AMP

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
AQ20	EP15X86	Silicon, NPN
AQ21	EP15X86	Silicon, NPN
AQ22	EP15X86	Silicon, NPN
AQ23	EP15X86	Silicon, NPN
AQ24	EP15X86	Silicon, NPN
AQ25	EP15X86	Silicon, NPN
AQ26	EP15X86	Silicon, NPN

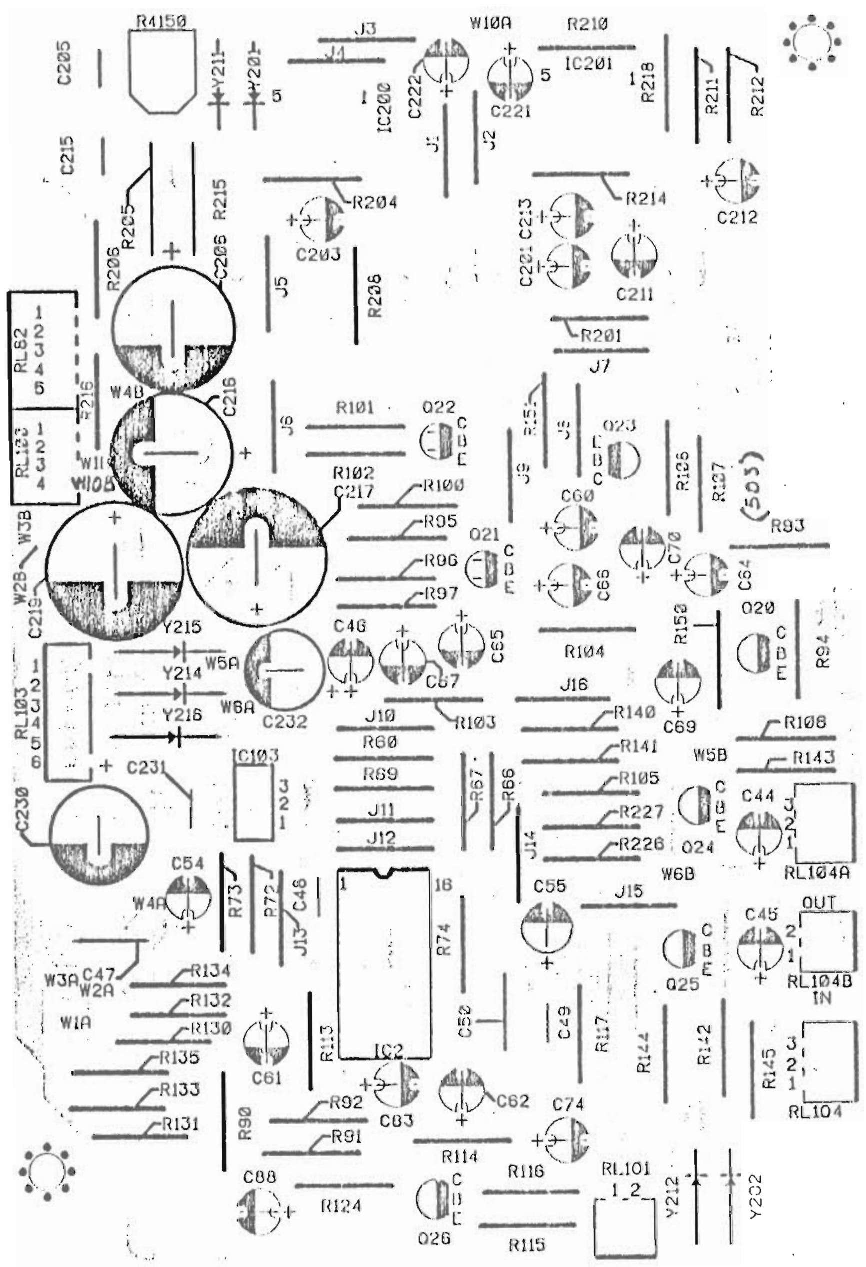
DIODES

REF. NO.	PART NO.	DESCRIPTION
AY201	EP16X160	Zener, 36V
AY202	EP16X159	Zener, 17V
AY211	EP16X160	Zener, 36V
AY212	EP16X159	Zener, 17V
AY214	EP57X4	Rectifier
AY215	EP57X4	Rectifier
AY216	EP57X4	Rectifier

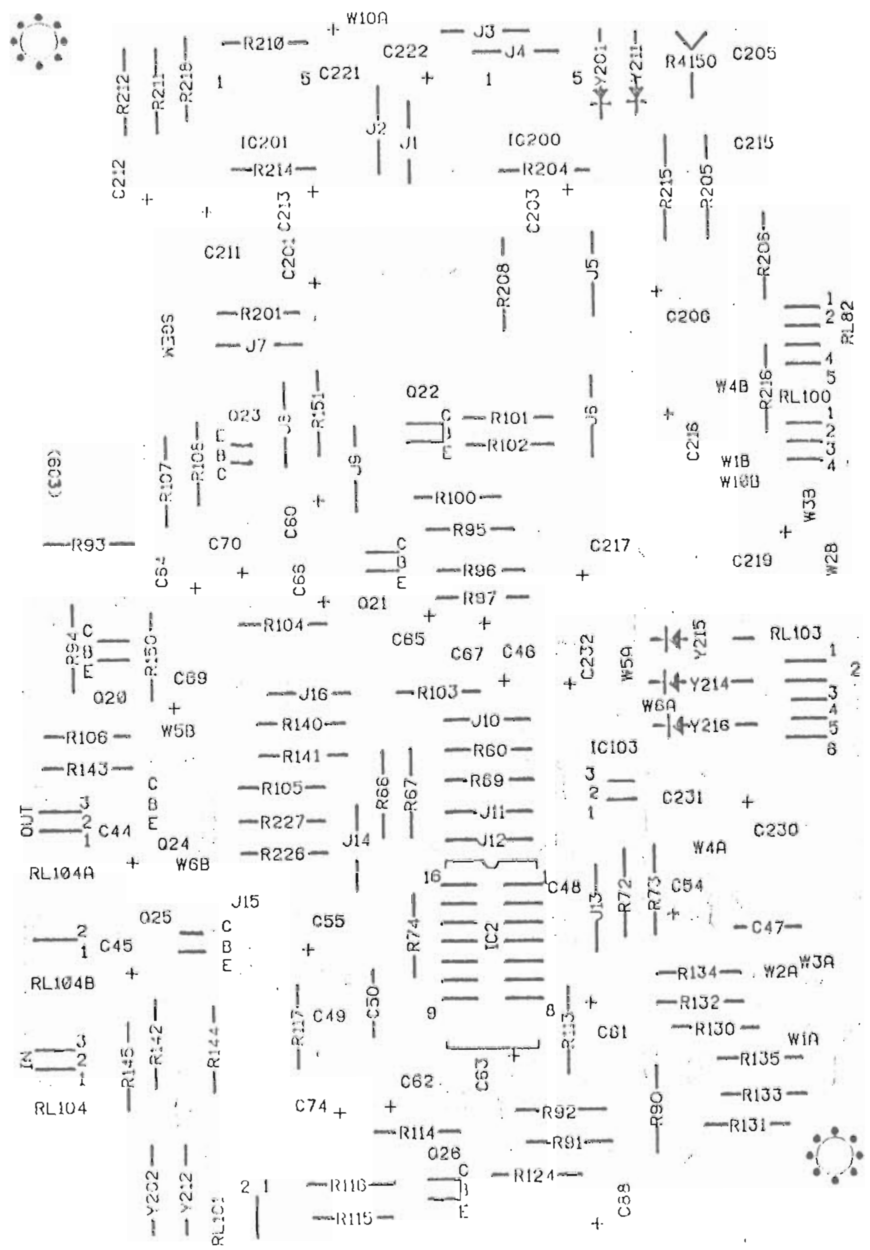


(COMPONENT SIDE)

2 WATT STEREO AMPLIFIER BOARD LAYOUT

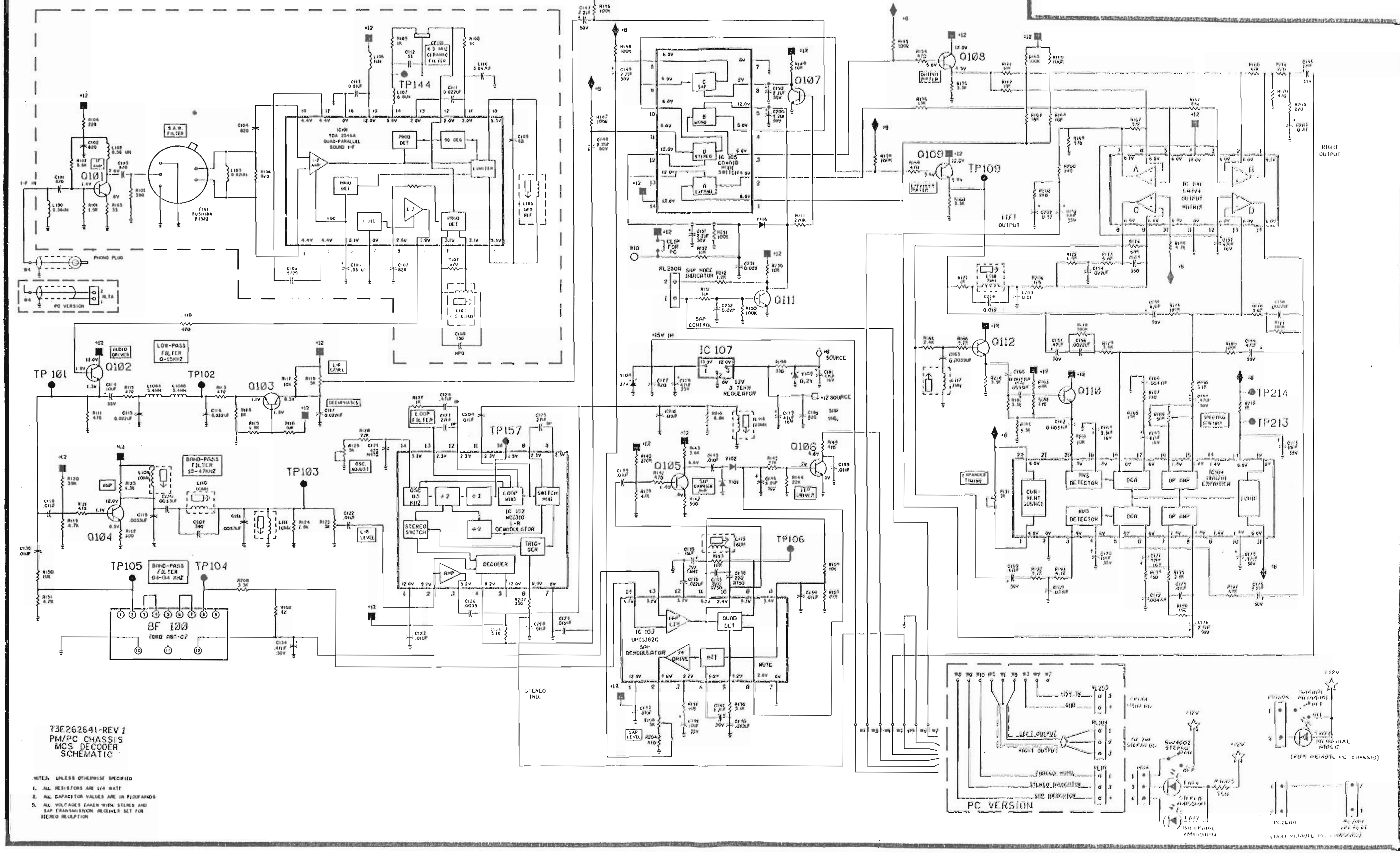


(COMPONENT SIDE)



(COPPER SIDE)

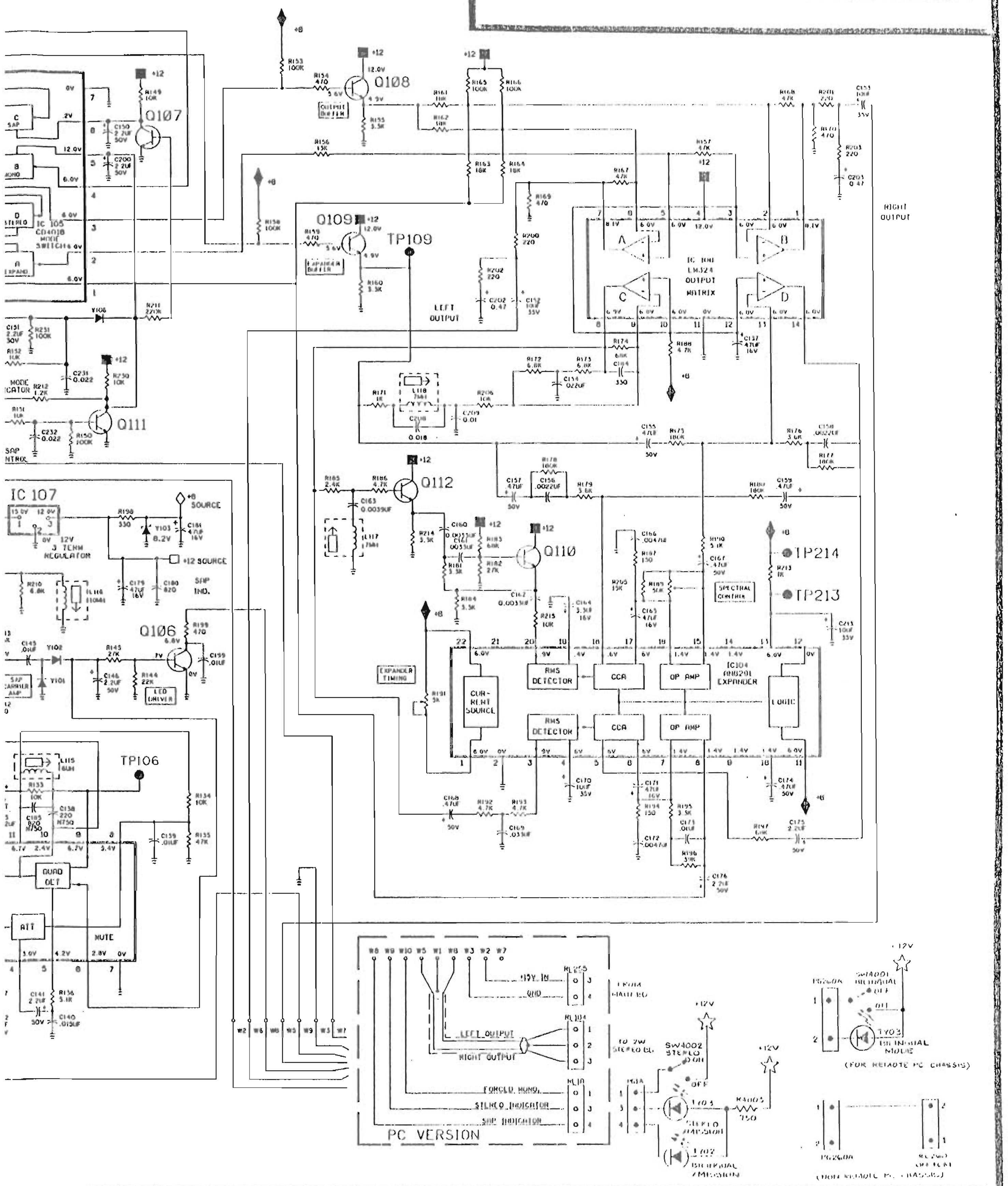
STEREO/BILINGUAL DECODER SCHEMATIC DIAGRAM



STEREO/I

REF. NO.
SC101
SC102
SC103
SC104
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SC160

STEREO/BILINGUAL DECODER SCHEMATIC DIAGRAM



STEREO/BILINGUAL CIRCUIT BOARD

EP93X623

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
SC101	EP18X180	820pf, 10%, 50V, HiK, Cer. Disc
SC102	EP18X180	820pf, 10%, 50V, HiK, Cer. Disc
SC103	EP18X180	820pf, 10%, 50V, HiK, Cer. Disc
SC104	EP18X180	820pf, 10%, 50V, HiK, Cer. Disc
SC105	EP18X216	4700pf, 30%, 25V, Cer. Disc
SC106	EP31X192	.33μf, 20%, 50V, Tantalum
SC107	EP18X180	820pf, 10%, 50V, HiK, Cer. Disc
SC108	EP18X113	150pf, 5%, 50V, NPO, Cer. Disc
SC109	EP18X191	68pf, 5%, 50V, Cer. Disc
SC110	EP25X87	.047μf, 10%, 50V, Polyester
SC111	EP25X183	.022μf, 10%, 50V, Polyester
SC112	EP18X188	33pf, 5%, 50V, Cer. Disc
SC113	EP18X169	.01μf, 30%, 25V, Cer. Disc
SC114	EP31X149	10μf, 20%, 35V, Elect.
SC115	EP25X183	.022μf, 10%, 50V, Polyester
SC116	EP25X183	.022μf, 10%, 50V, Polyester
SC117	EP25X183	.022μf, 10%, 50V, Polyester
SC118	EP18X169	.01μf, 30%, 25V, Cer. Disc
SC119	EP25X102	3300pf, 10%, 50V, Polyester
SC120	EP25X102	3300pf, 10%, 50V, Polyester
SC121	EP25X102	3300pf, 10%, 50V, Polyester
SC122	EP18X169	.01μf, 30%, 25V, Cer. Disc
SC123	EP18X169	.01μf, 30%, 25V, Cer. Disc
SC124	EP25X80	.015μf, 10%, 50V, Polyester
SC125	EP31X190	.27μf, 20%, 25V, Bi Polar, Elect.
SC126	EP25X102	3300pf, 10%, 50V, Polyester
SC127	EP31X190	.27μf, 20%, 25V, Bi Polar, Elect.
SC128	EP31X191	.47μf, 20%, 25V, Bi Polar, Elect.
SC129	EP18X204	470pf, 5%, 50V, N220, Cer. Disc
SC130	EP18X169	.01μf, 30%, 25V, Cer. Disc
SC134	EP31X138	.47μf, 20%, 50V, Elect.
SC135	EP25X183	.022μf, 10%, 50V, Polyester
SC136	EP31X197	15μf, 10%, 20V, Tantalum
SC137	EP31X45	47μf, 20%, 16V, Elect.
SC138	EP18X124	220pf, 5%, 50V, N750, Cer. Disc
SC139	EP25X131	.01μf, 10%, 50V, Polyester
SC140	EP25X80	.015μf, 10%, 50V, Polyester
SC141	EP31X173	2.2μf, 20%, 50V, Elect.
SC142	EP31X149	10μf, 20%, 35V, Elect.
SC143	EP25X131	.01μf, 10%, 50V, Polyester
SC144	EP18X169	.01μf, 30%, 25V, Cer. Disc
SC145	EP18X169	.01μf, 30%, 25V, Cer. Disc
SC146	EP31X173	2.2μf, 20%, 50V, Elect.
SC147	EP31X173	2.2μf, 20%, 50V, Elect.
SC148	EP31X173	2.2μf, 20%, 50V, Elect.
SC149	EP31X173	2.2μf, 20%, 50V, Elect.
SC150	EP31X173	2.2μf, 20%, 50V, Elect.
SC151	EP31X173	2.2μf, 20%, 50V, Elect.
SC152	EP31X149	10μf, 20%, 35V, Elect.
SC153	EP31X149	10μf, 20%, 35V, Elect.
SC154	EP25X183	.022μf, 10%, 50V, Polyester
SC155	EP31X138	.47μf, 20%, 50V, Elect.
SC156	EP25X164	2200pf, 10%, 50V, Polyester
SC157	EP31X138	.47μf, 20%, 50V, Elect.
SC158	EP25X164	2200pf, 10%, 50V, Polyester
SC159	EP31X138	.47μf, 20%, 50V, Elect.
SC160	EP25X102	3300pf, 10%, 50V, Polyester
SC161	EP25X102	3300pf, 10%, 50V, Polyester
SC162	EP25X102	3300pf, 10%, 50V, Polyester
SC163	EP25X188	3900pf, 10%, 50V, Polyester
SC164	EP31X189	3.3μf, 20%, 50V, Elect.
SC165	EP31X45	47μf, 20%, 16V, Elect.
SC166	EP25X165	4700pf, 10%, 50V, Polyester
SC167	EP31X138	.47μf, 20%, 50V, Elect.
SC168	EP31X138	.47μf, 20%, 50V, Elect.
SC169	EP25X171	.033μf, 10%, 50V, Polyester
SC170	EP31X149	10μf, 20%, 35V, Elect.
SC171	EP31X45	47μf, 20%, 16V, Elect.
SC172	EP25X165	4700pf, 10%, 50V, Polyester
SC173	EP25X131	.01μf, 10%, 50V, Polyester
SC174	EP31X138	.47μf, 20%, 50V, Elect.
SC175	EP31X173	2.2μf, 20%, 50V, Elect.
SC176	EP31X173	2.2μf, 20%, 50V, Elect.
SC177	EP18X180	820pf, 10%, 50V, HiK, Cer. Disc
SC178	EP31X45	47μf, 20%, 25V, Elect.
SC179	EP31X45	47μf, 20%, 16V, Elect.
SC180	EP18X180	820pf, 10%, 50V, HiK, Cer. Disc
SC181	EP31X45	47μf, 20%, 16V, Elect.
SC184	EP18X196	330pf, 10%, 50V, HiK, Cer. Disc
SC185	EP18X303	820pf, 5%, 50V, N750, Cer. Disc
SC198	EP18X169	.01μf, 30%, 25V, Cer. Disc
SC199	EP18X169	.01μf, 30%, 25V, Cer. Disc
SC200	EP31X173	2.2μf, 20%, 50V, Elect.
SC202	EP31X138	.47μf, 20%, 50V, Elect.
SC203	EP31X138	.47μf, 20%, 50V, Elect.
SC204	EP18X169	.01μf, 30%, 25V, Cer. Disc
SC207	EP18X296	390pf, 10%, 50V, HiK, Cer. Disc
SC208	EP25X186	.018μf, 10%, 50V, Polyester
SC209	EP25X131	.01μf, 10%, 50V, Polyester
SC210	EP25X131	.01μf, 10%, 50V, Polyester
SC213	EP31X149	10μf, 20%, 35V, Elect.
SC231	EP25X183	.022μf, 10%, 50V, Polyester
SC232	EP25X183	.022μf, 10%, 50V, Polyester

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
SR101	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR102	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
SR103	ES14X56	33 ohm, 5%, 1/4W, Carbon
SR104	EP14X318	220 ohm, 5%, 1/4W, Carbon
SR105	ES14X57	390 ohm, 5%, 1/4W, Carbon
SR106	ES14X61	820 ohm, 5%, 1/4W, Carbon
SR107	ES14X61	820 ohm, 5%, 1/4W, Carbon
SR108	ES14X71	1K ohm, 5%, 1/4W, Carbon
SR109	ES14X71	1K ohm, 5%, 1/4W, Carbon
SR110	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR111	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR112	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR113	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR114	ES14X71	1K ohm, 5%, 1/4W, Carbon
SR115	EP14X361	1.8K ohm, 5%, 1/4W, Carbon
SR116	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR117	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR119	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
SR120	EP14X447	39K ohm, 5%, 1/4W, Carbon
SR121	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR122	ES14X70	100 ohm, 5%, 1/4W, Carbon
SR123	EP14X431	1.3K ohm, 5%, 1/4W, Carbon
SR124	EP14X361	1.8K ohm, 5%, 1/4W, Carbon
SR126	EP14X418	5.1K ohm, 5%, 1/4W, Carbon
SR127	ES14X71	1K ohm, 5%, 1/4W, Carbon
SR128	EP14X104	22K ohm, 5%, 1/4W, Carbon
SR130	EP14X103	10K ohm, 5%, 1/4W, Carbon

SR131	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
SR132	EP14X428	82 ohm, 5%, 1/4W, Carbon
SR133	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR134	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR135	EP14X125	47K ohm, 5%, 1/4W, Carbon
SR136	EP14X418	5.1K ohm, 5%, 1/4W, Carbon
SR137	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR139	EP14X125	47K ohm, 5%, 1/4W, Carbon
SR140	EP14X97	270K ohm, 5%, 1/4W, Carbon
SR141	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR142	ES14X57	390 ohm, 5%, 1/4W, Carbon
SR143	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
SR144	EP14X104	22K ohm, 5%, 1/4W, Carbon
SR145	EP14X380	27K ohm, 5%, 1/4W, Carbon
SR146	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR147	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR148	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR149	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR150	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR151	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR152	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR153	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR154	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR155	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
SR156	EP14X464	13K ohm, 5%, 1/4W, Carbon
SR157	EP14X125	47K ohm, 5%, 1/4W, Carbon
SR158	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR159	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR160	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
SR161	EP14X414	18K ohm, 5%, 1/4W, Carbon
SR162	EP14X414	18K ohm, 5%, 1/4W, Carbon
SR163	EP14X414	18K ohm, 5%, 1/4W, Carbon
SR164	EP14X414	18K ohm, 5%, 1/4W, Carbon
SR165	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR166	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR167	EP14X125	47K ohm, 5%, 1/4W, Carbon
SR168	EP14X125	47K ohm, 5%, 1/4W, Carbon
SR169	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR170	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR171	ES14X71	1K ohm, 5%, 1/4W, Carbon
SR172	EP14X456	6.8K ohm, 5%, 1/4W, Carbon
SR173	EP14X456	6.8K ohm, 5%, 1/4W, Carbon
SR174	EP14X119	68K ohm, 5%, 1/4W, Carbon
SR175	EP14X196	180K ohm, 5%, 1/4W, Carbon
SR176	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
SR177	EP14X196	180K ohm, 5%, 1/4W, Carbon
SR178	EP14X196	180K ohm, 5%, 1/4W, Carbon
SR179	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
SR180	EP14X196	180K ohm, 5%, 1/4W, Carbon
SR181	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
SR182	EP14X380	27K ohm, 5%, 1/4W, Carbon
SR183	EP14X119	68K ohm, 5%, 1/4W, Carbon
SR184	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
SR185	EP14X411	2.4K ohm, 5%, 1/4W, Carbon
SR186	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
SR188	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
SR187	EP14X120	150 ohm, 5%, 1/4W, Carbon
SR190	EP14X418	5.1K ohm, 5%, 1/4W, Carbon
SR192	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
SR193	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
SR194	EP14X120	150 ohm, 5%, 1/4W, Carbon
SR195	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
SR196	EP14X447	39K ohm, 5%, 1/4W, Carbon
SR197	EP14X119	68K ohm, 5%, 1/4W, Carbon
SR198	EP14X128	330 ohm, 5%, 1/4W, Carbon
SR199	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR200	EP14X445	220 ohm, 5%, 1/4W, Carbon
SR201	EP14X318	220 ohm, 5%, 1/4W, Carbon
SR202	EP14X445	220 ohm, 5%, 1/4W, Carbon
SR203	EP14X318	220 ohm, 5%, 1/4W, Carbon
SR204	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR205	EP14X398	15K ohm, 5%, 1/4W, Carbon
SR206	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR207	EP14X128	330 ohm, 5%, 1/4W, Carbon
SR208	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
SR210	EP14X456	6.8K ohm, 5%, 1/4W, Carbon
SR211	EP14X403	220K ohm, 5%, 1/4W, Carbon
SR212	EP14X448	1.2K ohm, 5%, 1/4W, Carbon
SR213	ES14X71	1K ohm, 5%, 1/4W, Carbon
SR214	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
SR215	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR230	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR231	EP14X105	100K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
SR118	EP49X463	5K ohm, 20%
SR125	EP49X463	5K ohm, 20%
SR129	EP49X463	5K ohm, 20%
SR138	EP49X463	5K ohm, 20%
SR189	EP49X465	50K ohm, 20%
SR191	EP49X463	5K ohm, 20%

INTERGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
SIC101	EP84X254	OPS/FM DET
SIC102	EP84X253	(L—R) DEMOD
SIC103	EP84X216	(SAP) DEMOD
SIC104	EP84X252	BIPLR DBX (EXPANDER)
SIC105	EP84X30	QUAD BILATRL MODE SWITCH
SIC106	EP84X119	DL & OD DP AMP
SIC107	EP84X217	3 TERMINAL 12 VOLTAGE REGULATOR

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
SQ101	EP15X104	IF AMP-HF BILOLAR
SQ102	EP15X87	AUDIO DRIVER-Silicon, NPN
SQ103	EP15X87	DEEMPHASIS-Silicon, NPN
SQ104	EP15X87	AMP-Silicon, NPN
SQ105	EP15X87	SAP CARRIER AMP-Silicon, NPN
SQ106	EP15X87	LED DRIVER-Silicon, NPN
SQ107	EP15X87	SWITCH-Silicon, NPN
SQ108	EP15X87	PUTPUT BUFFER-Silicon, NPN
SQ109	EP15X87	EXPANDER BUFFER-Silicon, NPN
SQ110	EP15X87	AMP-Silicon, NPN
SQ111	EP15X87	SWITCH-Silicon, NPN
SQ112	EP15X87	Silicon, NPN

DIODES

REF. NO.	PART NO.	DESCRIPTION
SY101	ES16X27	Silicon
SY102	ES16X27	Silicon
SY103	EP16X153	Zener, 6.2V
SY104	EP16X156	Zener, 27V
SY106	ES16X27	Silicon

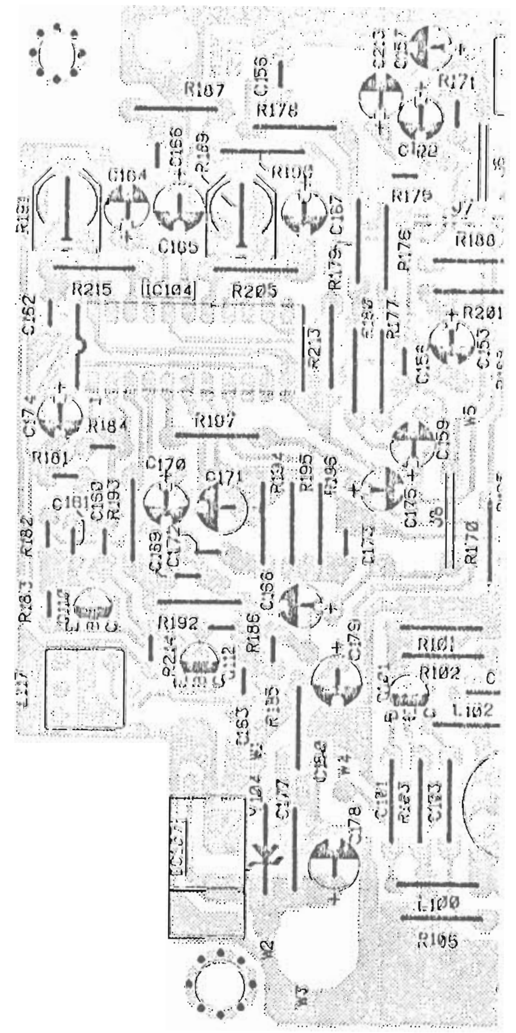
COILS

REF. NO.	PART NO.	DESCRIPTION
BF100	EP41X155	FILTER-Bandpass
CF101	EP18X293	FILTER-Ceramic
SF101	EP14X158	COIL-Surface Wavefil.
SL100	EP36X494	CHOKE-.56μh, 10%
SL102	EP36X494	CHOKE-.56μh, 10%
SL103	EP36X495	CHOKE-.82μh, 10%
SL104	EP36X496	COIL-Tuned Inductor
SL105	EP36X433	COIL-Molded
SL106	EP36X309	CHOKE-1μh, 10%
SL107	EP36X265	CHOKE-6.8μh, 10%
SL108A	EP36X501	CHOKE-5400μh, 5%
SL108B	EP36X501	CHOKE-5400μh, 5%
SL109	EP36X493	COIL-Tuned Inductor
SL110	EP36X493	COIL-Tuned Inductor
SL111	EP36X493	COIL-Tuned Inductor
SL115	EP36X447	COIL-Remote Control
SL116	EP36X493	COIL-Tuned Inductor
SL117	EP36X447	COIL-Remote Control
SL118	EP36X447	COIL-Remote Control

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL1A	EP8X67	CONNECTOR-4 Pos.
RL7A	EP8X68	CONNECTOR-2 Pos.

STE



COILS

REF. NO.	PART NO.	DESCRIPTION
BF100	EP41X155	FILTER-Bandpass
CF101	EP18X293 *1	FILTER-Ceramic
SF101	EP14X158	COIL-Surface Wavefil.
SL100	EP36X494	CHOKE-.56μh, 10%
SL102	EP36X494	CHOKE-.56μh, 10%
SL103	EP36X495	CHOKE-.82μh, 10%
SL104	EP36X496	COIL-Tuned Inductor
SL105	EP36X433	COIL-Molded
SL106	EP36X309	CHOKE-1μh, 10%
SL107	EP36X265	CHOKE-6.8μh, 10%
SL108A	EP36X501	CHOKE-5400μh, 5%
SL108B	EP36X501	CHOKE-5400μh, 5%
SL109	EP36X493	COIL-Tuned Inductor
SL110	EP36X493	COIL-Tuned Inductor
SL111	EP36X493	COIL-Tuned Inductor
SL115	EP36X447	COIL-Remote Control
SL116	EP36X493	COIL-Tuned Inductor
SL117	EP36X447	COIL-Remote Control
SL118	EP36X447	COIL-Remote Control

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL1A	EP8X67	CONNECTOR-4 Pos.
RL7A	EP8X68	CONNECTOR-2 Pos.

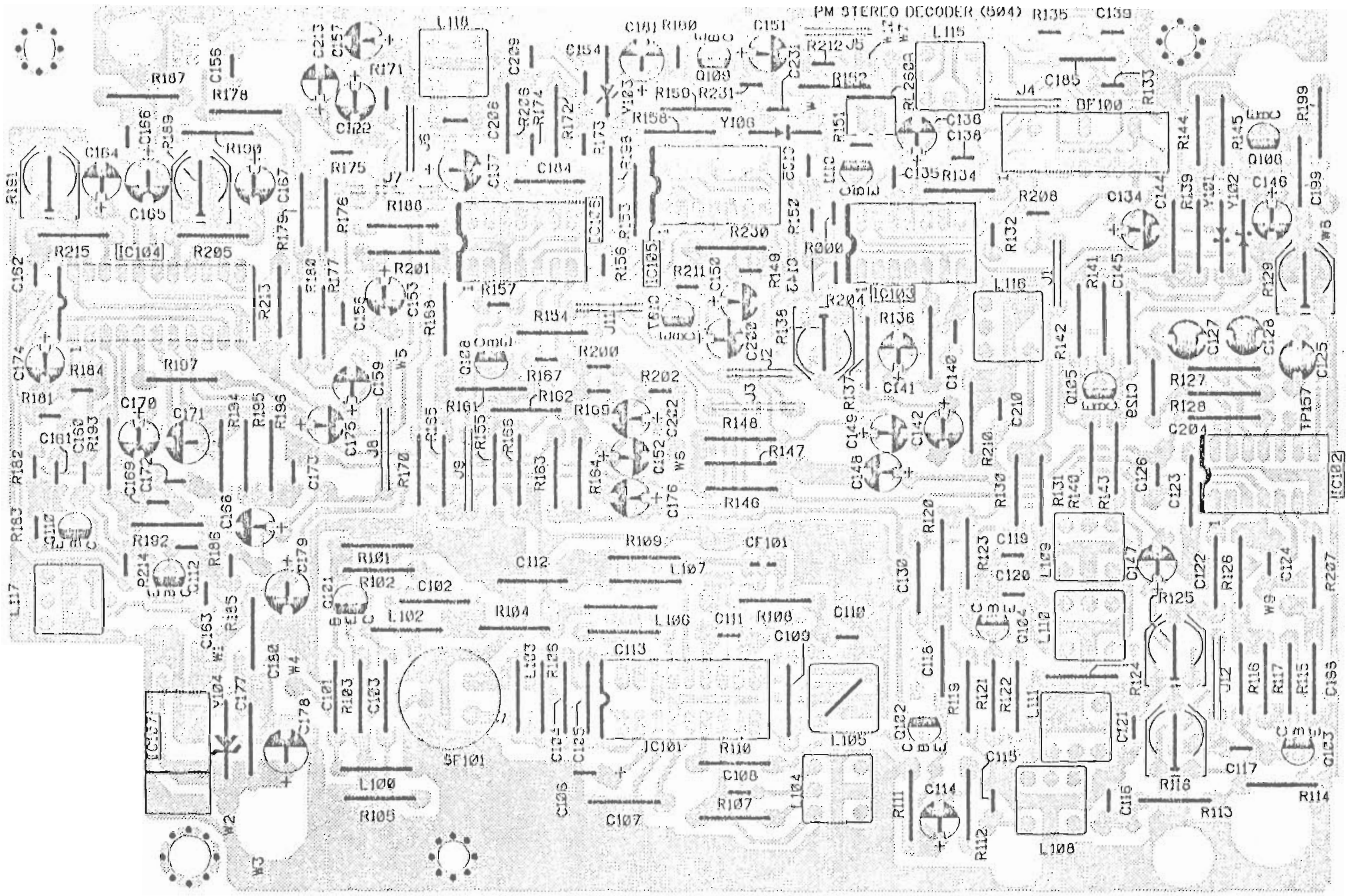
TCH

NPN

PN

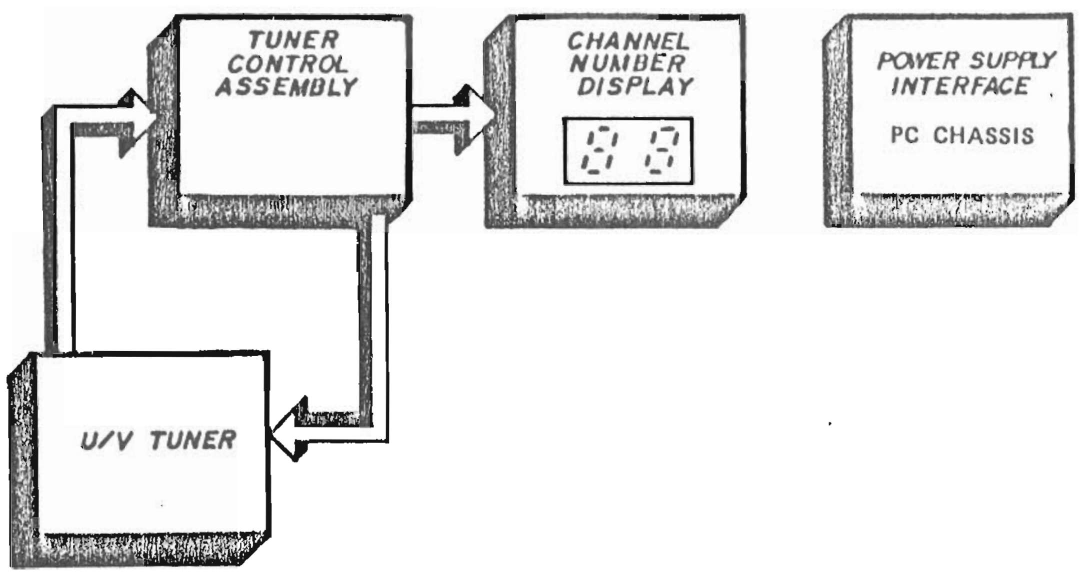
, NPN

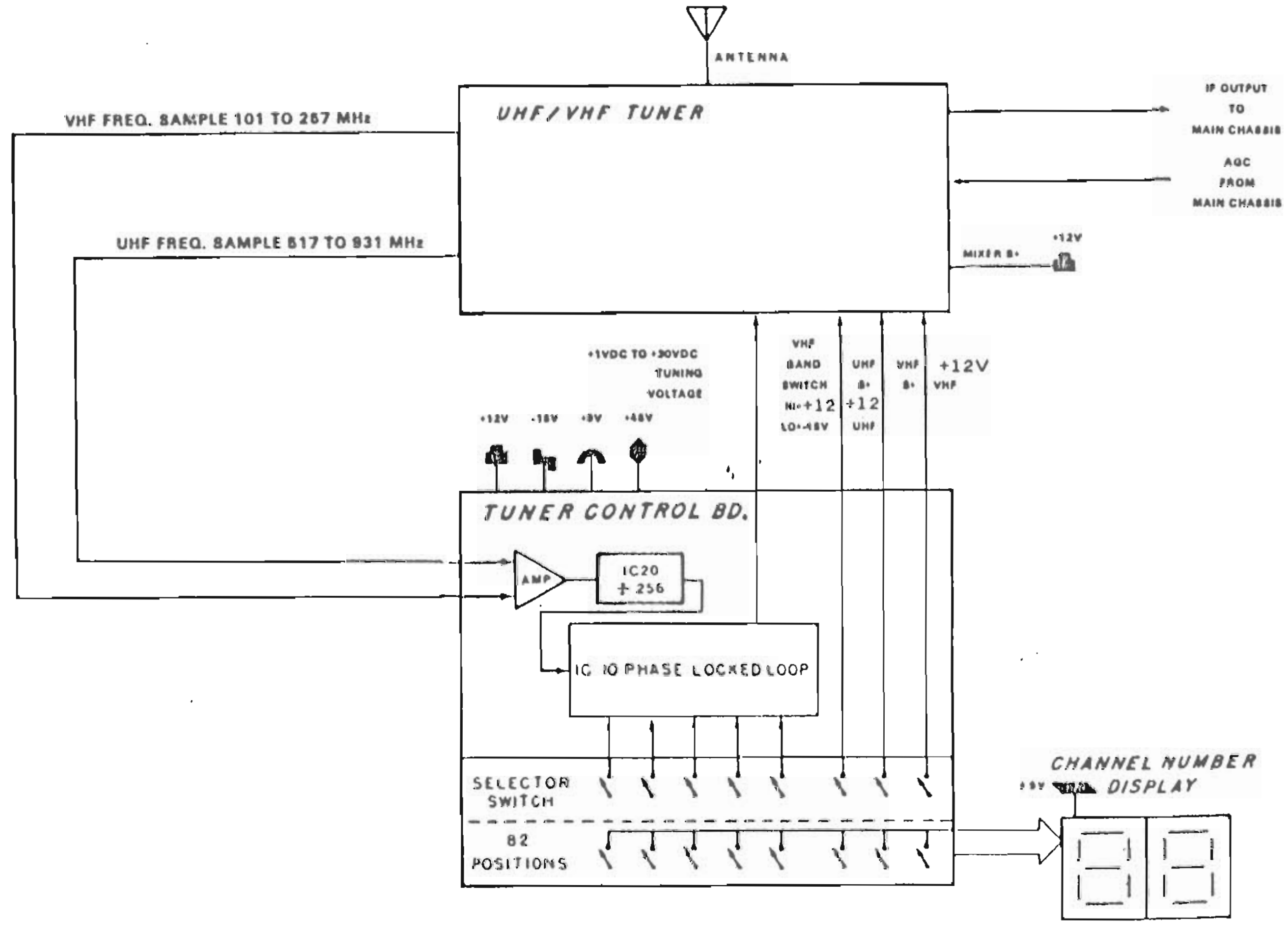
STEREO/BILINGUAL CIRCUIT BOARD LAYOUT



(COPPER SIDE)

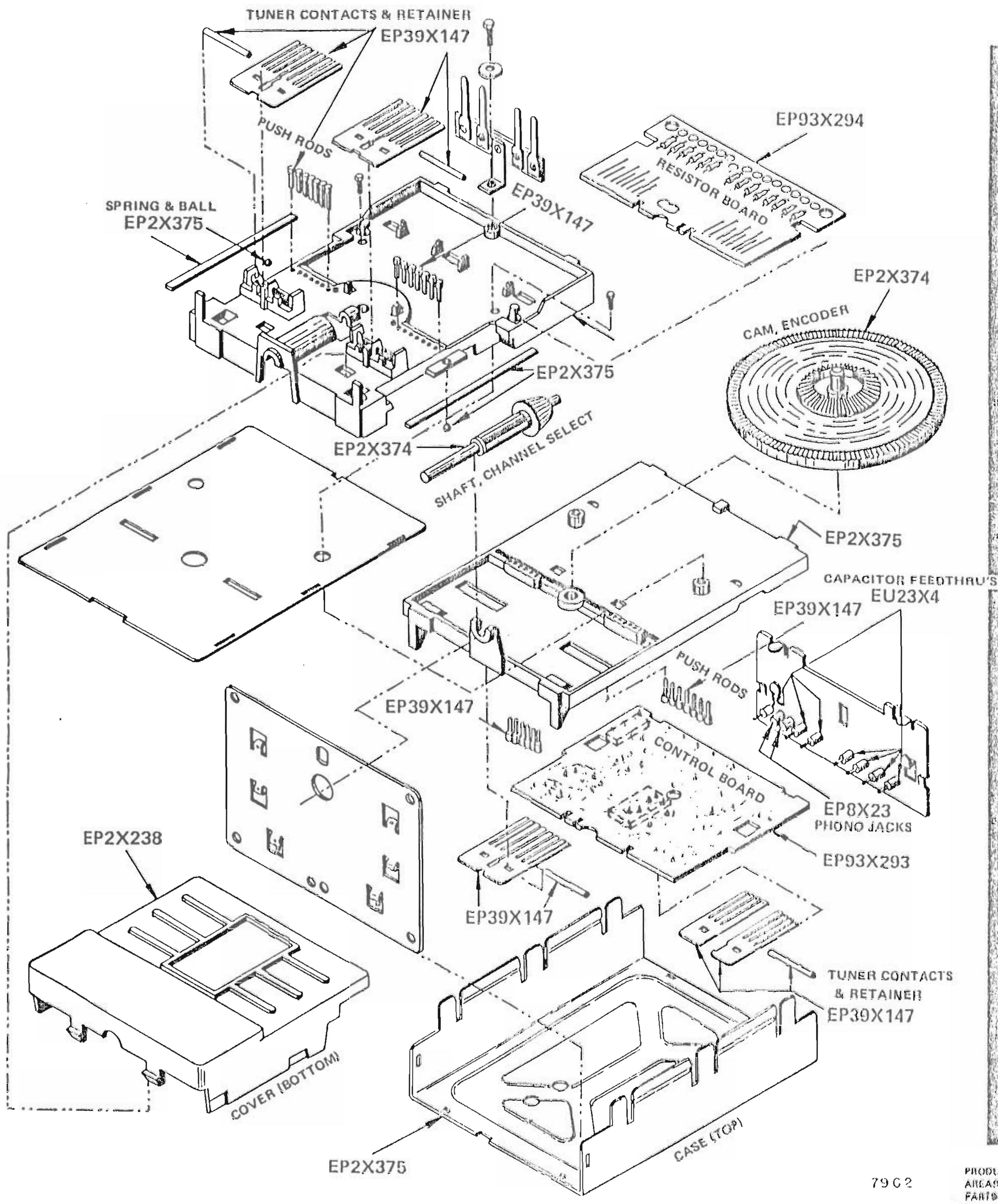
ET91 SYSTEM BLOCK DIAGRAM





ET91 FUNCTIONAL BLOCK DIAGRAMS

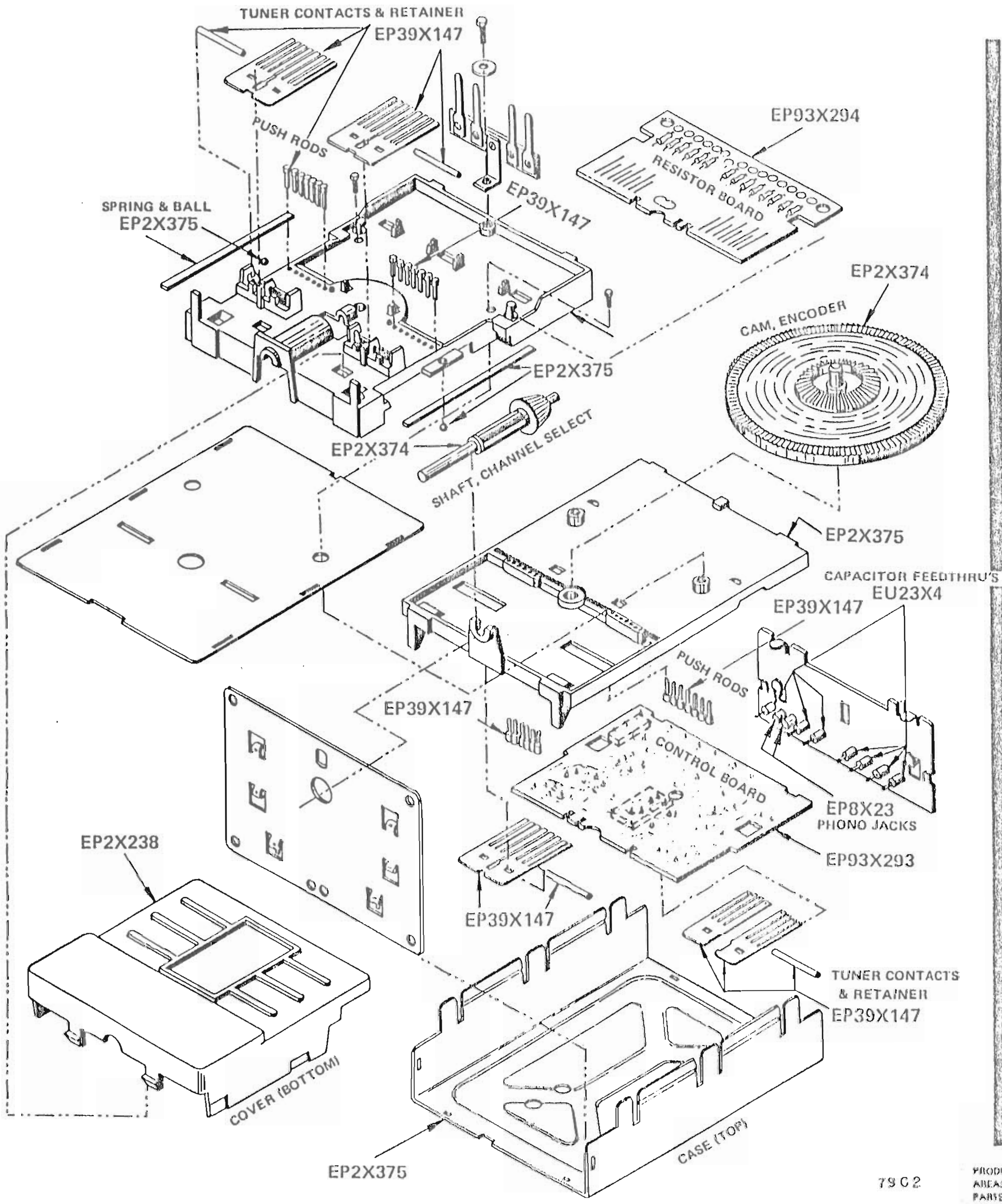
ET91 CONTROL ASSEMBLY (EP93X376) EXPLODED VIEW



7902

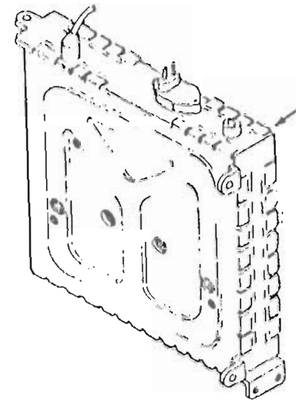
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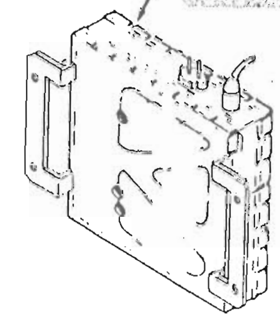
ET91 CONTROL ASSEMBLY (EP93X376) EXPLODED VIEW

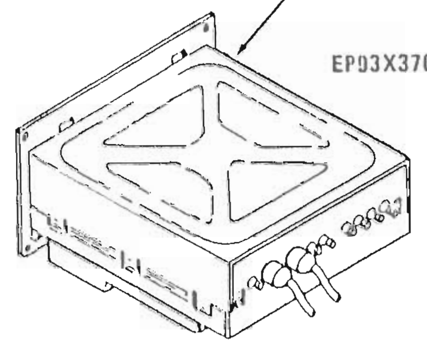


79C2

ET91 SYSTEM COMPONENT ASSEMBLIES









ET91 (w/PRESCALER) COMPONENT ASSEMBLIES

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR COMPONENT LOCATION (SEE PC CHASSIS LAYOUT - THIS PAGE)

NO VIDEO / ABNORMAL VIDEO

MANIPULATE THE CONTROLS. DOES THE SET HAVE COLOR BUT NOT THE BLACK AND WHITE PART OF THE PICTURE?

YES → **K** USE AN OSCILLOSCOPE TO CHECK FOR THE VIDEO SIGNAL (.5VPP) AT PIN 27 OF IC300. IS IT THERE?

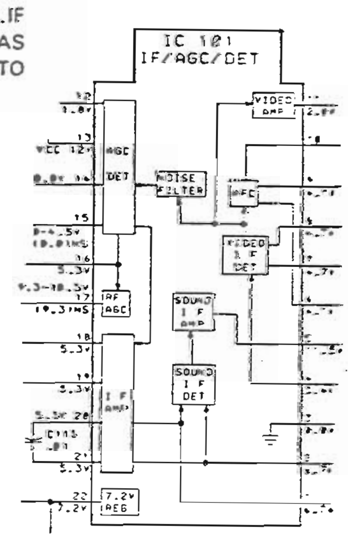
- **NO →** **F** USE A CLIP LEAD TO JUMPER FROM L220 (DELAY LINE) TO THE POSITIVE SIDE OF C216. DOES THE BLACK AND WHITE PART OF THE PICTURE COME BACK ON?
  - **YES →** **F** THE PROBLEM IS IN THE CIRCUITRY OF Q206 AND Q204. THEY SHOULD READ 10:1 FRONT TO BACK RESISTANCE IN CIRCUIT.
  - **NO →** **K** MEASURE THE DC VOLTAGES ON IC300 AS SHOWN BELOW. IF ANY VOLTAGES ARE INCORRECT TRY TO DETERMINE THE CAUSE. IF NO SUCCESS REPLACE IC300.
- **YES →** **K** USE AN OSCILLOSCOPE TO CHECK FOR THE VIDEO SIGNAL (7VPP) AT PIN 21 OF IC300. IS IT THERE?
  - **NO →** **K** MEASURE THE DC VOLTAGES ON IC300 AS SHOWN BELOW. PAY PARTICULAR ATTENTION TO THE BRIGHTNESS CONTROL RANGE (PIN 23) AND PICTURE CONTROL RANGE (PIN 26). IF ANY VOLTAGES ARE INCORRECT TRY TO DETERMINE THE CAUSE. IF NO SUCCESS REPLACE IC300.
  - **YES →** **R** CHECK D207. THE FRONT TO BACK RESISTANCE SHOULD READ 10:1 IN THE CIRCUIT.

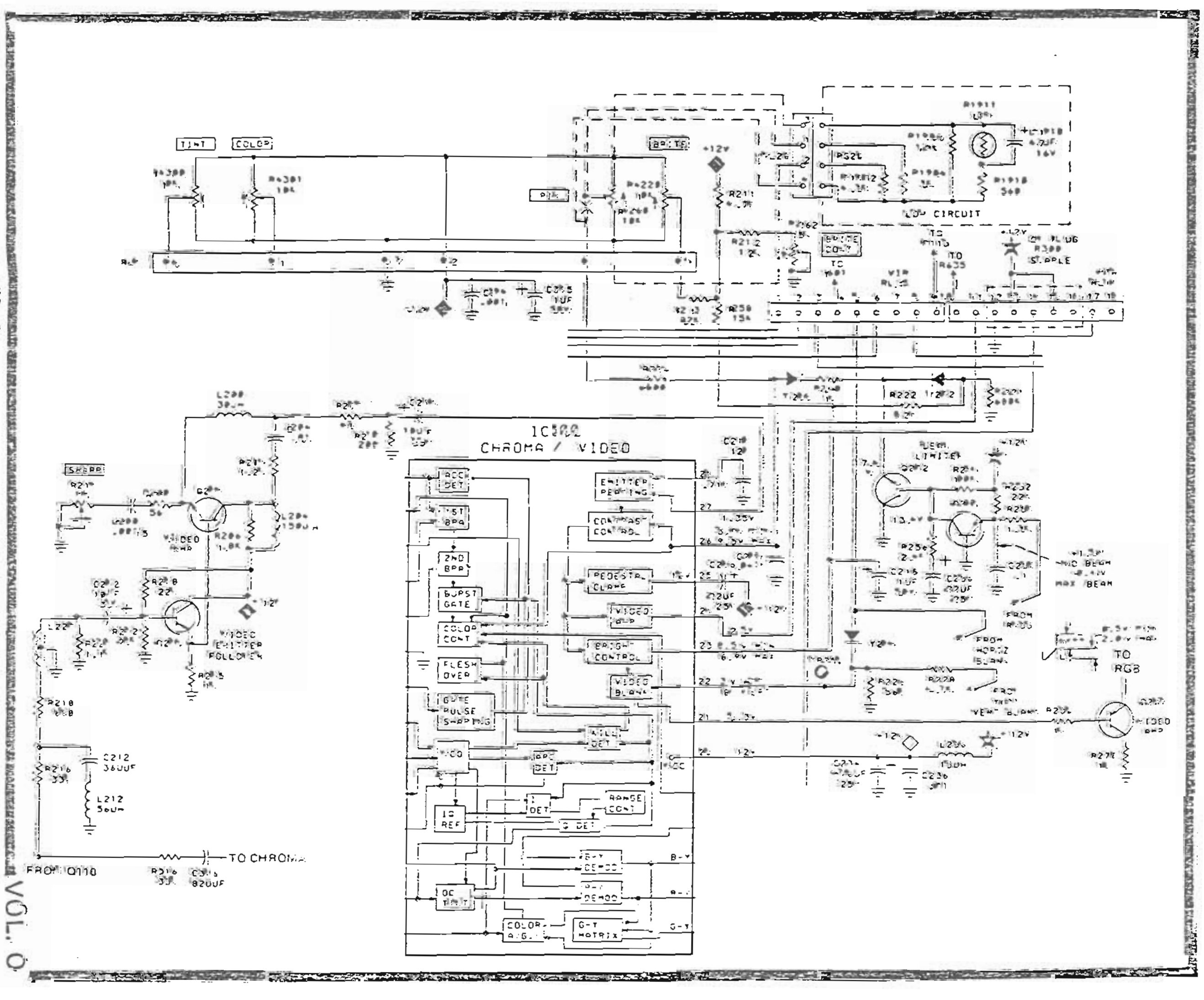
NO → **A** USE A SIGNAL GENERATOR OR TUNER SUBBER TO INJECT A SIGNAL INTO THE BASE OF Q105.* CAN A PICTURE BE OBTAINED?

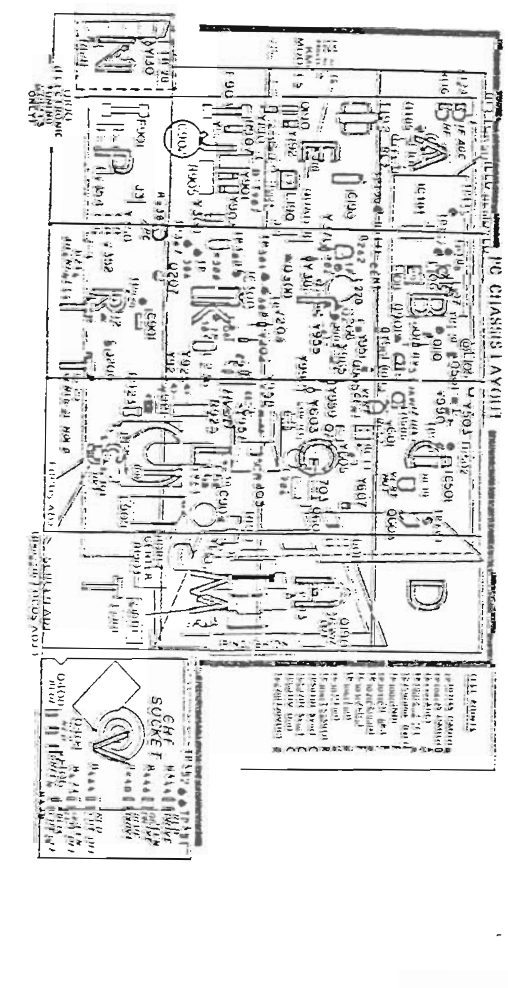
- **YES →** THE PROBLEM IS IN THE TUNER OR ELECTRONIC TUNING SYSTEM.
- **NO →** **A B** CHECK Q105 AND Q110 AND THEIR ASSOCIATED CIRCUITRY. IF THEY ARE GOOD MEASURE THE DC VOLTAGES ON IC101 AS SHOWN BELOW. IF ANY VOLTAGES ARE INCORRECT TRY TO DETERMINE THE CAUSE. IF NO SUCCESS REPLACE IC101.

*ALTERNATE METHOD: UNPLUG PG 7 FROM THE CIRCUIT BOARD. QUICKLY "MAKE AND BREAK" CONTACT BETWEEN PG 7 AND ITS CONNECTING PINS ON THE BOARD. DOES THIS CAUSE THE RASTER TO FLASH?

- **YES →** THE PROBLEM IS IN THE TUNER OR ELECTRONIC TUNING SYSTEM.
- **NO →** **A B** CHECK Q105 AND Q110 AND THEIR ASSOCIATED CIRCUITRY.

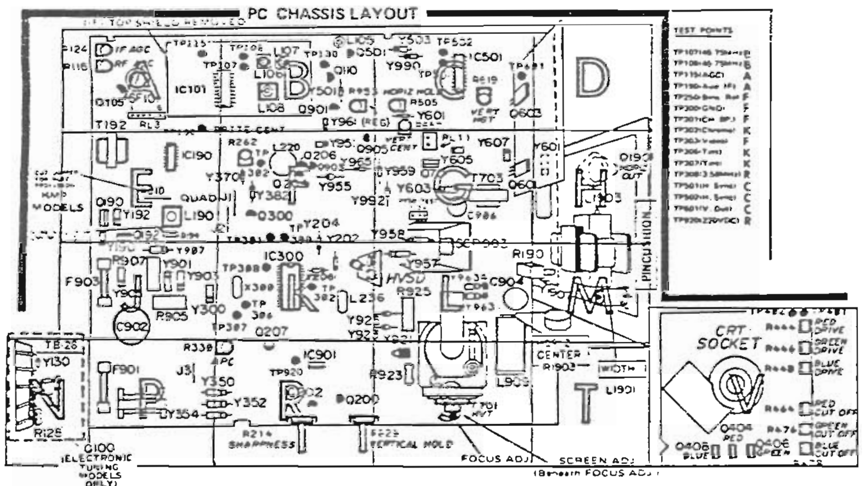






RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR COMPONENT LOCATION (SEE PC CHASSIS LAYOUT - THIS PAGE)

NO AUDIO



DOES THE SET HAVE "PUSH BUTTON" "VOLUME UP" AND "VOLUME DOWN" CONTROLS?

NO / YES

E (YES) MEASURE THE VOLTAGE AT PIN 8 OF IC190. WILL THE VOLTAGE CHANGE FROM 0 TO +2VDC AS "VOLUME UP" IS DEPRESSED AND HELD DOWN?

YES / NO

E (NO) DISCONNECT PG2. DOES THE SOUND COME ON AT FULL VOLUME?

NO / YES

(YES) THE PROBLEM IS IN THE VOLUME CONTROL CIRCUITRY OF THE ELECTRONIC TUNING SYSTEM.

E TURN THE VOLUME CONTROL UP. INJECT AN AUDIO FREQUENCY SIGNAL* INTO THE POSITIVE SIDE OF C198. CAN THE SIGNAL BE HEARD?

NO / YES

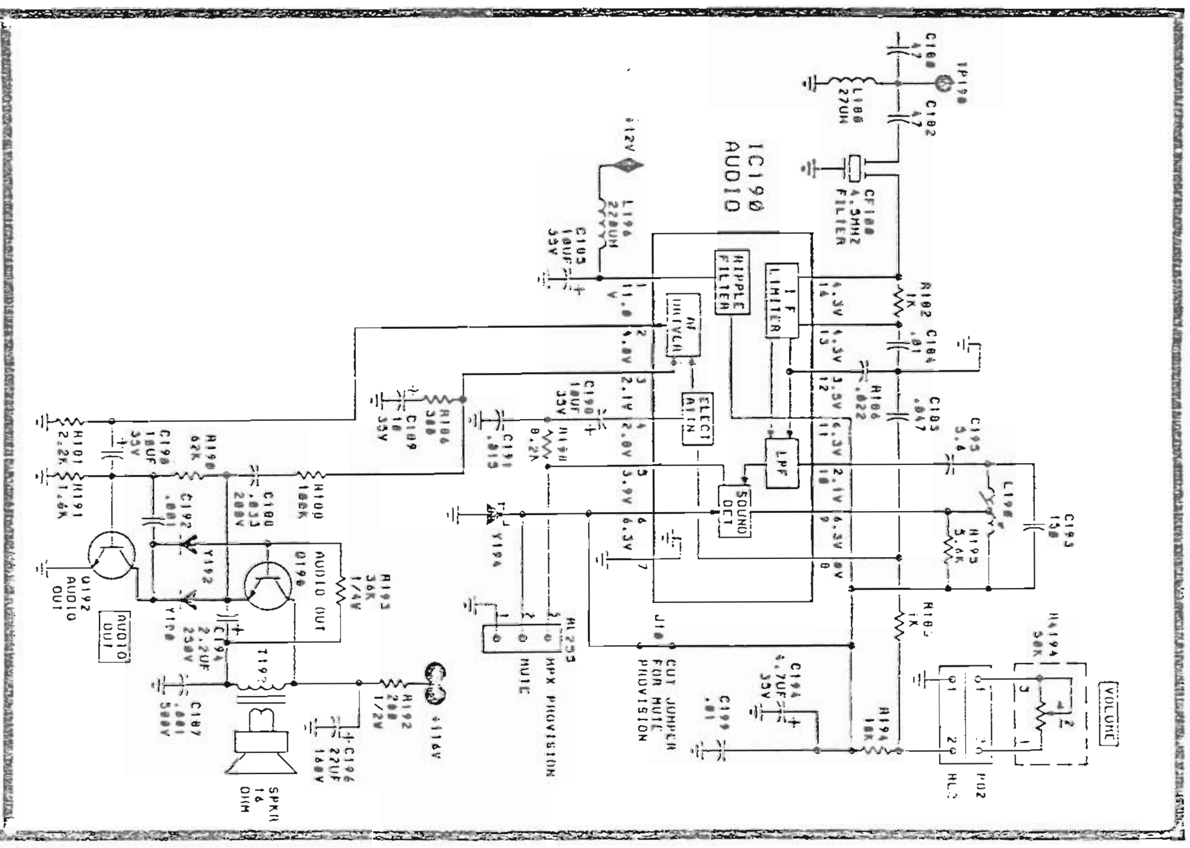
E (NO) INJECT THE SAME SIGNAL* INTO THE POSITIE SIDE OF C190. CAN THE SIGNAL BE HEARD?

NO / YES

E (YES) MEASURE THE DC VOLTAGES ON IC190 AS SHOWN BELOW. IF ANY VOLTAGES ARE INCORRECT TRY TO DETERMINE THE CAUSE. IF NO SUCCESS REPLACE IC190.

E J (NO) THE PROBLEM IS IN THE AUDIO OUTPUT STAGES. Q190 AND Q192 ARE THE MOST LIKELY FAULTS. THE FRONT TO BACK RISISTANCE SHOULD BE AT LEAST 10:1 IN CIRCUIT.

*ALTERNATE METHOD OF SIGNAL INJECTION: USE A CLIP LEAD IN SERIES WITH A .47 MFD CAPACITOR TO INJECT VERTICAL PULSES FROM R621 INTO THE AUDIO. THIS WILL PRODUCE A 60Hz BUZZ.



NORMAL DC VOLTAGES TO CHASSIS GROUND

Q190 E +27.0VDC
B +27.6VDC
C +115.0VDC

Q192 E 0
B +0.6VDC
C +27.0VDC

RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR COMPONENT LOCATION (SEE PC CHASSIS LAYOUT - THIS PAGE)

NO SYNC / ABNORMAL SYNC

OBSERVE THE PICTURE. DOES THE SET HAVE:

NO VERTICAL SYNC

R

CHECK THE ADJUSTMENT OF THE VERTICAL HOLD CONTROL, R629.

C

USE AN OSCILLOSCOPE TO CHECK FOR VERTICAL SYNC PULSES (3.5VPP) ON PIN 7 OF IC501. ARE THEY THERE?

YES — C

CHECK FOR SOLDER CONNECTIONS, COMPONENT LEAD DRESS, AND SOLDER SHORTS AROUND PINS 2, 3, AND 6 OF IC501.

NO — C G

CHECK THE INTEGRATOR NETWORK R633, R634, R635, C609, C611. CHECK FOR SOLDER CONNECTIONS. COMPONENT LEAD DRESS, AND SOLDER SHORT AROUND PINS 7 AND 8 OF IC501.

NO HORIZONTAL SYNC

C

CHECK THE ADJUSTMENT OF THE HORIZONTAL HOLD CONTROL, R505.

G

USE AN OSCILLOSCOPE TO CHECK FOR HORIZONTAL FLYBACK PULSES (100VPP) ON THE ANODE OF Y992. ARE THEY THERE?

YES — C

MEASURE THE VOLTAGE ON THE CATHODE OF Y990. IS IT:

+4.5VDC — C

CHECK FOR SOLDER CONNECTIONS, COMPONENT LEAD DRESS, AND SOLDER SHORTS AROUND PINS 11, 12, AND 13 OF IC501.

0 — L

REPLACE THE HIGH VOLTAGE SHUTDOWN MODULE.

NO — C

CHECK R990 AND THE HVT WINDING FROM PINS 15 TO 13.

NO VERTICAL OR HORIZONTAL SYNC

C

USE AN OSCILLOSCOPE TO CHECK FOR A VIDEO SIGNAL (1.5VPP) AT PIN 10 OF IC501. IS IT THERE?

NO — B

USE AN OSCILLOSCOPE TO CHECK FOR A VIDEO SIGNAL (1.5VPP) AT THE COLLECTOR OF Q501. IS IT THERE?

NO

CHECK Q501, Y501, AND THEIR ASSOCIATED CIRCUITRY.

YES — C

CHECK Y503, C512, C515 AND ASSOCIATED CIRCUITRY. CHECK FOR SOLDER CONNECTIONS, LEAD DRESS, AND SOLDER SHORTS AROUND PIN 10 OF IC501.

YES — C

MEASURE THE DC VOLTAGE ON PIN 9 OF IC501. IS IT +5.3VDC ±20%.

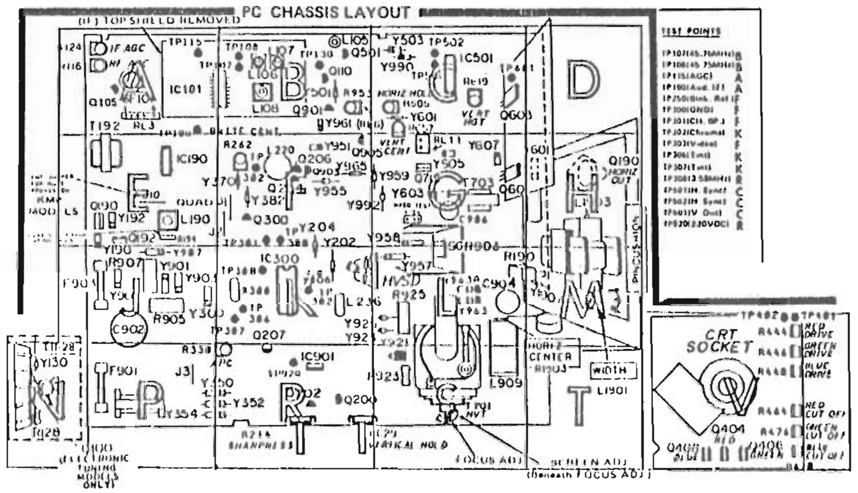
NO — C

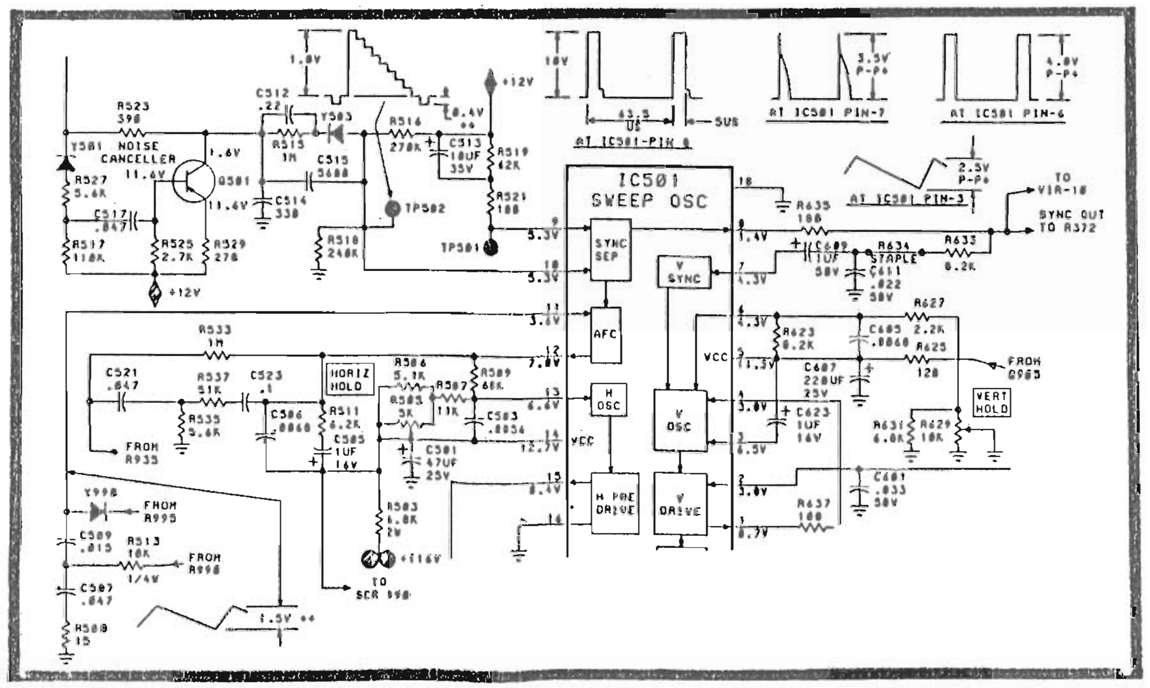
CHECK R519 AND R521. CHECK FOR SOLDER CONNECTIONS, COMPONENT LEAD DRESS, AND SOLDER SHORTS AROUND PIN 9 OF IC501.

YES

IF NO SUCCESS REPLACE IC501.

C





RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR COMPONENT LOCATION (SEE PC CHASSIS LAYOUT - THIS PAGE)

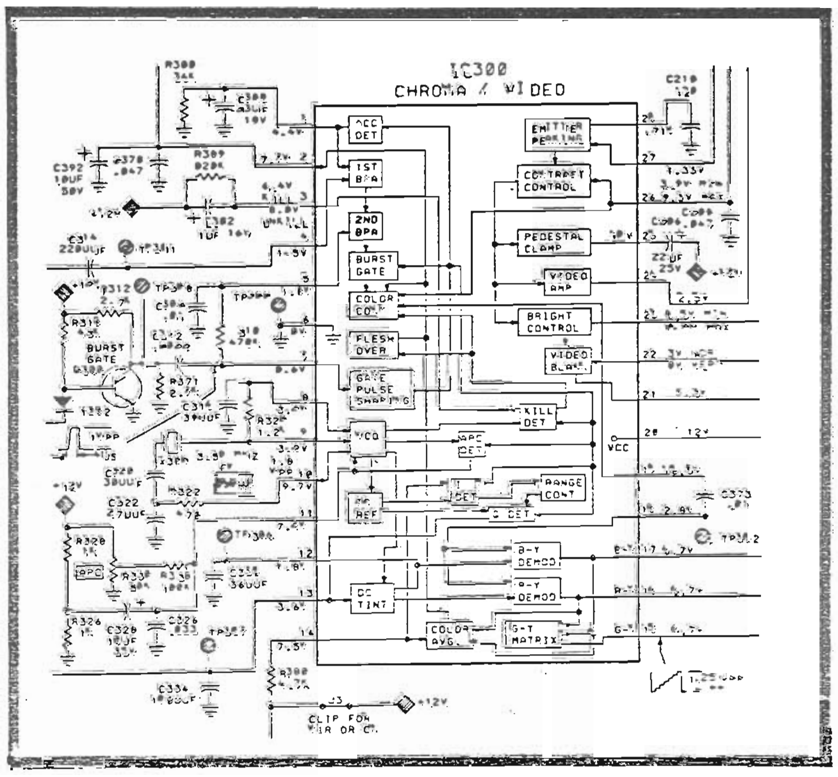
NO RASTER (NORMAL SOUND)

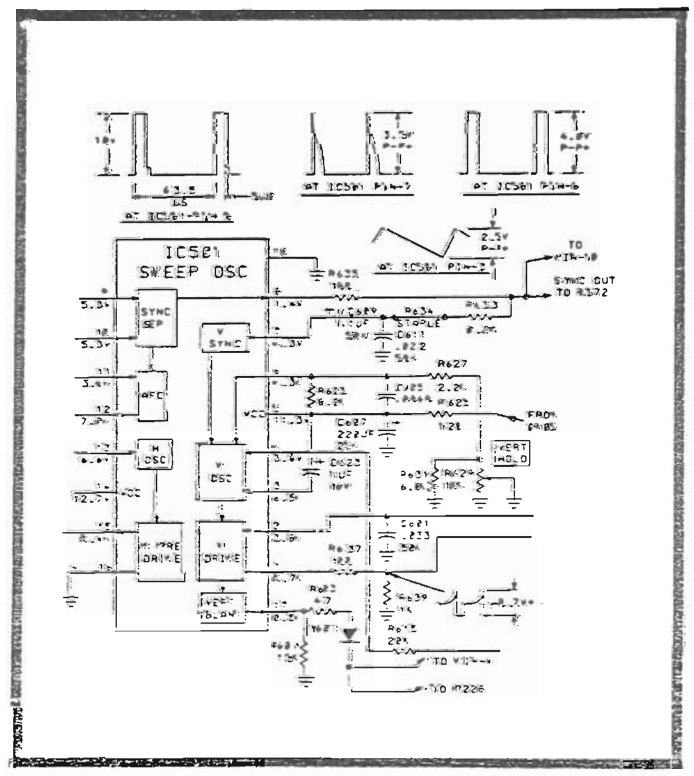
OBSERVE THE PICTURE TUBE FILAMENTS ARE THEY LIT?

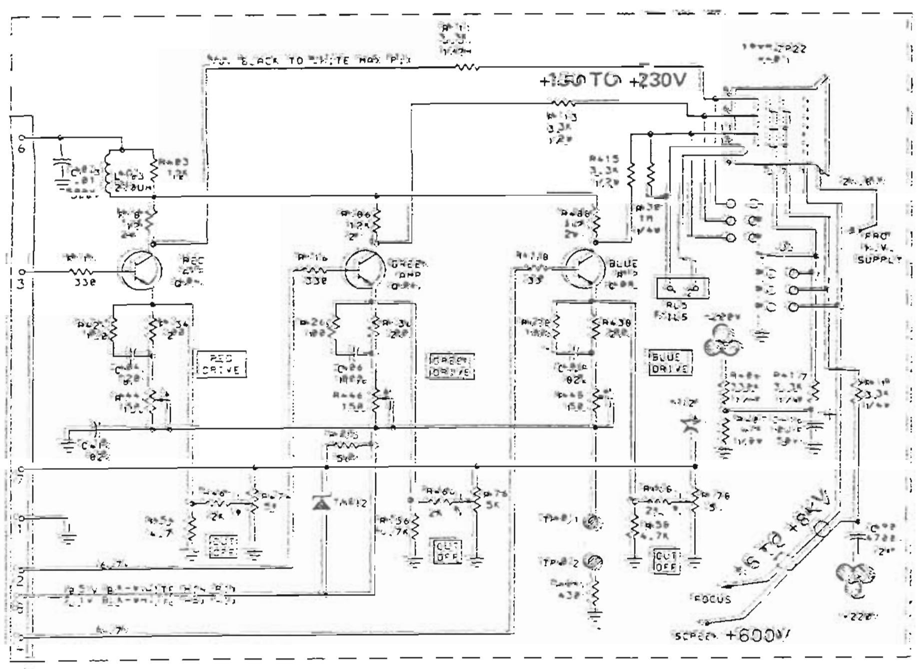
YES — ADJUST THE BRIGHTNESS AND PICTURE CONTROLS TO MAXIMUM. MEASURE THE VOLTAGE ON PIN 6 OF THE PICTURE TUBE. IS THE VOLTAGE MORE THAN +210VDC?

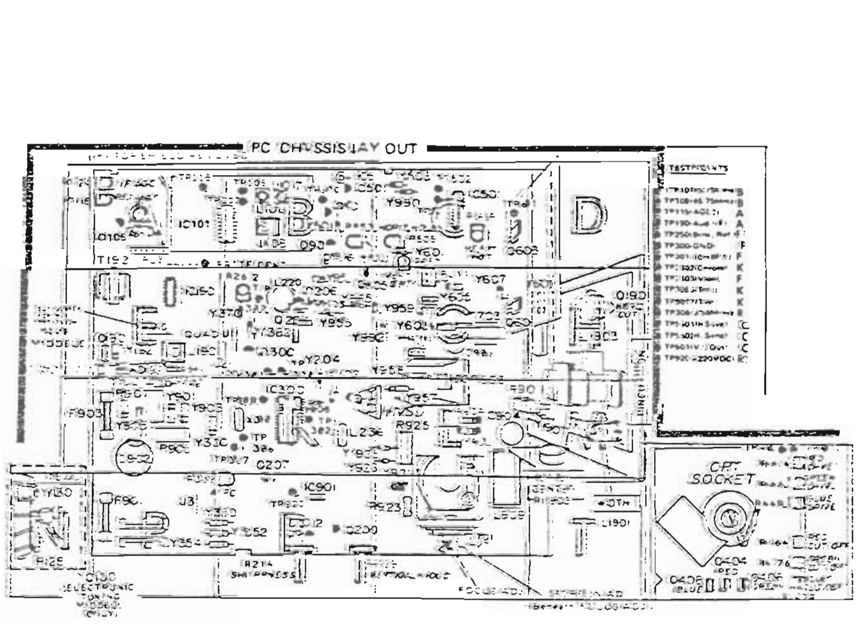
- NO — MEASURE THE REMAINING VOLTAGES ON THE PICTURE TUBE AS SHOWN BELOW. IF THEY ARE INCORRECT TRY TO DETERMINE THE CAUSE. IF NO SUCCESS SUSPECT A BAD PICTURE TUBE.
- YES — MEASURE THE VOLTAGE ON PIN 17 OF IC501. IS THE VOLTAGE ABOUT: **C**
  - +1VDC — THE PICTURE TUBE IS BLANKED OFF BY A FAILURE IN THE VIDEO STAGES. CHECK Q207 FIRST. IF NO SUCCESS MEASURE THE VOLTAGES ON IC300 AS SHOWN BELOW. IF ANY VOLTAGE IS INCORRECT TRY TO DETERMINE THE CAUSE. IF NO SUCCESS REPLACE IC300. **K R**
  - +8VDC — **C** THE PICTURE TUBE IS BLANKED OFF BY A FAILURE IN THE VERTICAL OSCILLATOR. MEASURE THE VOLTAGES ON IC501 AS SHOWN BELOW. IF ANY VOLTAGE IS INCORRECT TRY TO DETERMINE THE CAUSE. IF NO SUCCESS REPLACE IC501.

NO — **S** REMOVE POWER FROM THE RECEIVER. REMOVE THE PICTURE TUBE SOCKET AND CHECK THE CONTINUITY OF ITS FILAMENT (PINS 9 AND 10). IF THE PICTURE TUBE FILAMENT IS GOOD CHECK THE CONTINUITY OF THE HVT WINDING FROM PINS 7 TO 9. ALSO CHECK L929 AND C933 IN THE FILAMENT CIRCUIT.

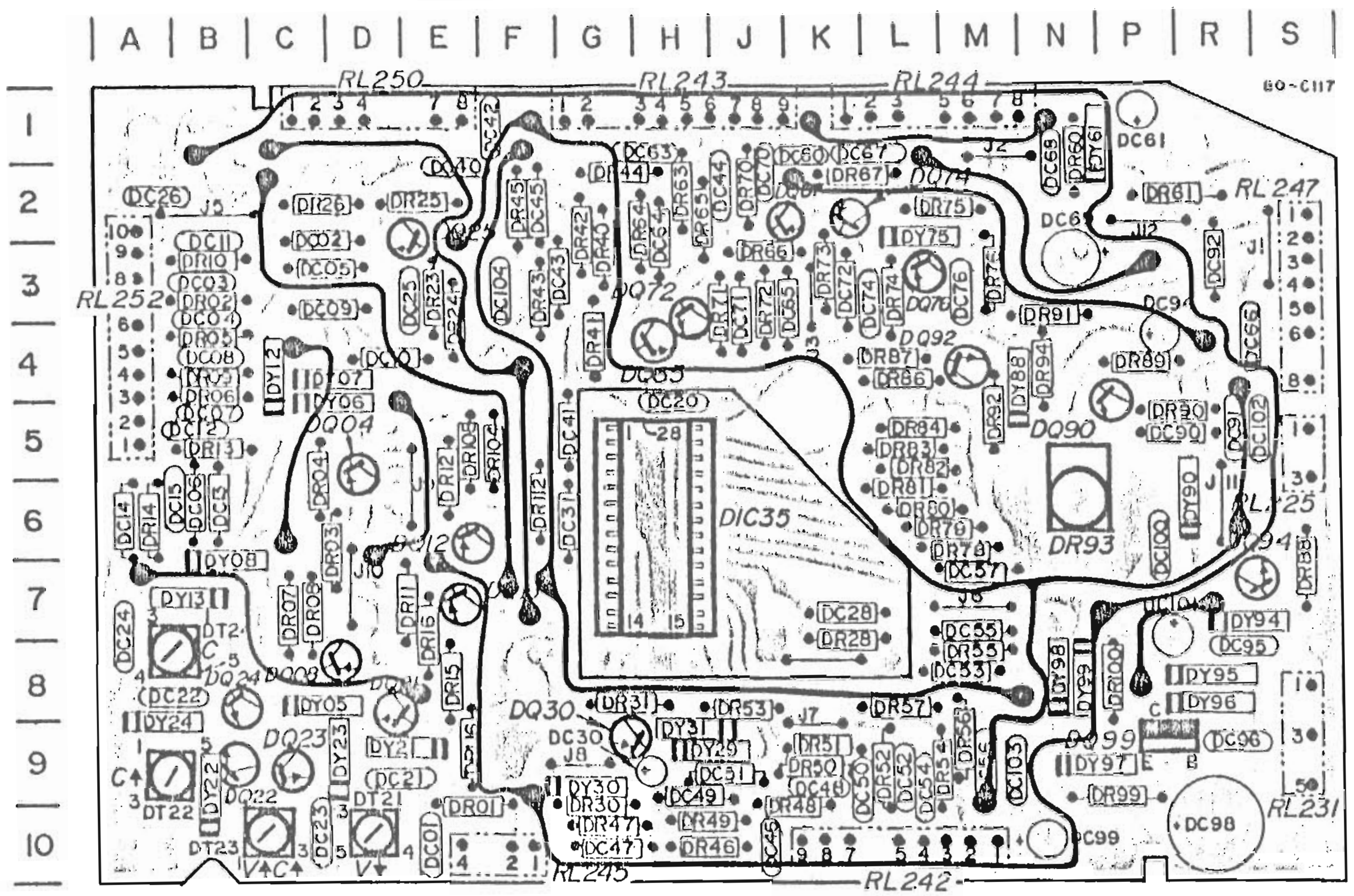








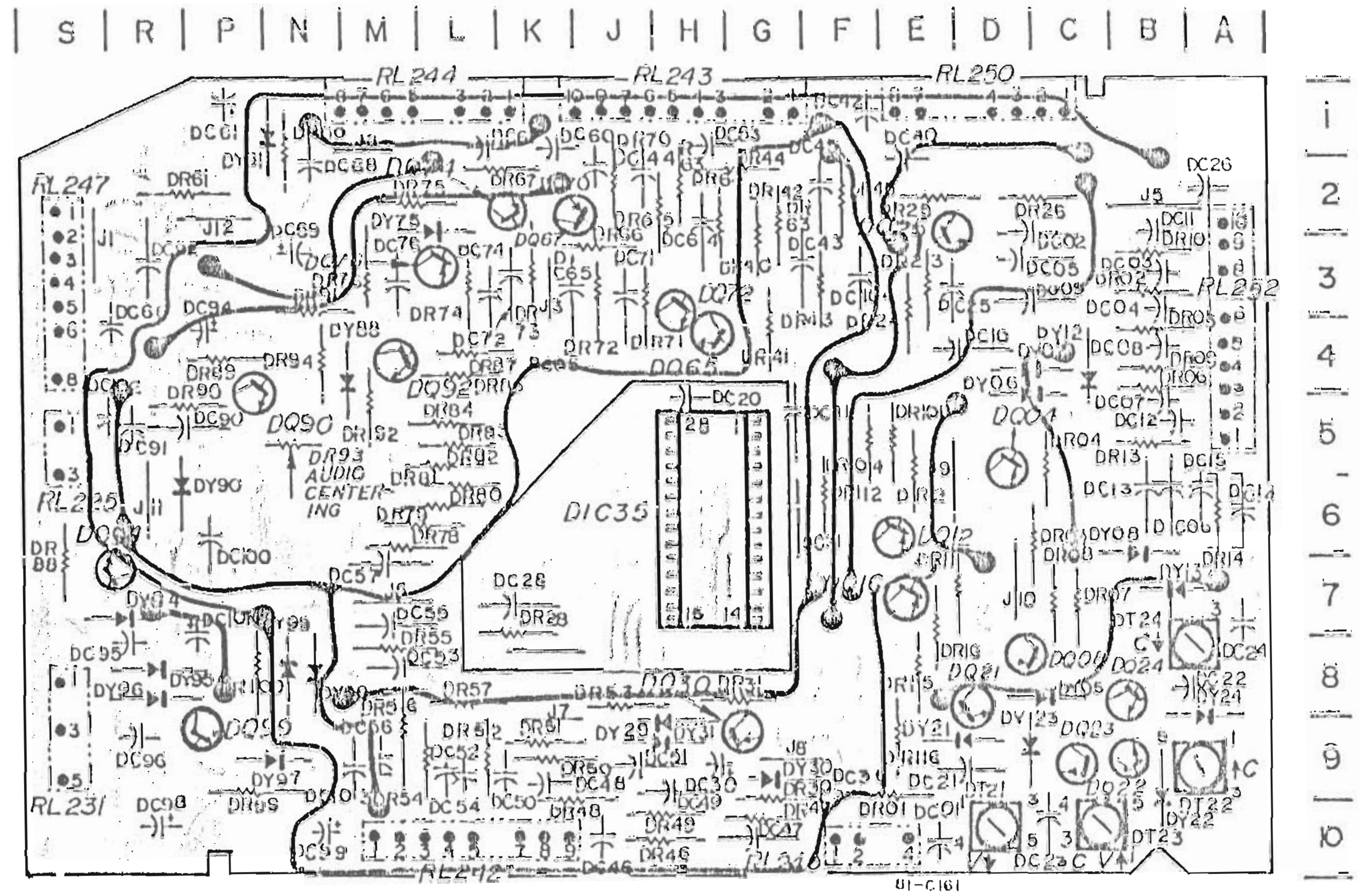
LMP-91 TUNER CONTROL MODULE
EP93X279



COMPONENT SIDE

COLOR = TOP COPPER PATTERN

LMP-91 TUNER CONTROL MODULE
EP93X279



COPPER SIDE

COLOR = TOP COPPER PATTERN

COMPONENT LOCATION

RESISTORS			CAPACITORS			DIODES
DR01-E10	DR45-F2	DR79-M6	DC01-E10	DC43-F3	DC74-L3	D405-C8
DR02-B3	DR46-H10	DR80-L6	DC02-C3	DC44-J2	DC76-M3	D406-D4
DR03-C6	DR47-G10	DR81-L6	DC03-B3	DC45-F2	DC90-P6	D407-C4
DR04-C6	DR48-K10	DR82-L5	DC04-B3	DC46-J10	DC91-R5	D408-B6
DR06-B4	DR49-H10	DR83-L5	DC05-C3	DC47-G10	DC92-R3	D412-C4
DR07-C7	DR50-K9	DR84-L5	DC06-B6	DC48-K9	DC94-P3	D413-B7
DR08-C7	DR51-K9	DR86-L4	DC07-B5	DC49-H10	DC95-R8	D421-E9
DR09-B4	DR52-L9	DR87-L4	DC08-B4	DC50-K10	DC96-R9	D422-B10
DR10-B3	DR53-I8	DR88-S6	DC09-C3	DC51-J8	DC98-R10	D423-D9
DR11-E7	DR54-M10	DR89-P4	DC10-D4	DC52-L9	DC99-N10	D424-A8
DR12-E6	DR55-M8	DR90-P4	DC11-B2	DC53-L8	DC100-P7	D429-I9
DR13-B5	DR56-M9	DR91-N3	DC12-B5	DC54-L9	DC101-P7	D430-G9
DR14-A6	DR57-L8	DR92-M6	DC13-B6	DC55-M7	DC102-R4	D431-H9
DR15-E8	DR60-N1	DR93-N5	DC14-A6	DC56-M9	DC103-M9	D461-P2
DR16-E8	DR61-R2	DR94-N4	DC15-A5	DC57-M7	DC104-F3	D476-M2
DR23-E3	DR63-H2	DR99-P10	DC20-H5	DC60-J1		D488-M4
DR24-E4	DR64-H2	DR100-P8	DC21-E9	DC61-P1		D490-P6
DR25-E2	DR66-I3	DR104-F5	DC22-A8	DC63-G4		D499-R7
DR26-C2	DR67-K2	DR108-E5	DC23-C10	DC64-H3		D495-H8
DR28-K7	DR70-I1	DR112-F6	DC24-A8	DC65-K3		D496-R8
DR30-G9	DR71-J4		DC15-03	DC66-H4		D497-N9
DR31-G8	DR72-I4		DC26-A2	DC67-K1		D498-N8
DR40-G3	DR73-K4		DC30-H9	DC68-N2		D499-N8
DR41-GA	DR74-L3		DC31-C6	DC69-N3		
DR42-G2	DR75-L2		DC40-E1	DC70-J2		
DR43-G4	DR76-M3	23-N	DC41-F5	DC71-J3		
DR44-G2	DR78-G6		DC42-F1	DC72-K3		

TRANSFORMERS
DT21-D10
DT22-A9
DT23-B10
DT24-B7

INTEGRATED CIRCUIT
DIC35-I6

TRANSISTORS	
DQ04-D5	DQ65-H4
DQ12-E6	DQ67-K2
DQ16-E7	DQ72-C3
DQ21-D8	DQ74-L2
DQ22-B9	DQ76-L3
DQ23-C9	DQ90-N5
DQ24-B8	DQ92-M4
DQ25-E2	DQ94-R6
DQ30-H8	DQ99-D9

COMPONENT LOCATION

RESISTORS			CAPACITORS			DIODES
DR01-E10	DR45-F2	DR79-M6	DC01-E10	DC43-F3	DC74-L3	D405-C8
DR02-B3	DR46-H10	DR80-L6	DC02-C3	DC44-J2	DC76-M3	D406-D4
DR03-C6	DR47-G10	DR81-L6	DC03-B3	DC45-F2	DC90-P6	D407-C4
DR04-C6	DR48-K10	DR82-L5	DC04-B3	DC46-J10	DC91-R5	D408-B6
DR06-B4	DR49-H10	DR83-L5	DC05-C3	DC47-G10	DC92-R3	D412-C4
DR07-C7	DR50-K9	DR84-L5	DC06-B6	DC48-K9	DC94-P3	D413-B7
DR08-C7	DR51-K9	DR86-L4	DC07-B5	DC49-H10	DC95-R8	D421-E9
DR09-B4	DR52-L9	DR87-L4	DC08-B4	DC50-K10	DC96-R9	D422-B10
DR10-B3	DR53-I8	DR88-S6	DC09-C3	DC51-J8	DC98-R10	D423-D9
DR11-E7	DR54-M10	DR89-P4	DC10-D4	DC52-L9	DC99-N10	D424-A8
DR12-E6	DR55-M8	DR90-P4	DC11-B2	DC53-L8	DC100-P7	D429-I9
DR13-B5	DR56-M9	DR91-N3	DC12-B5	DC54-L9	DC101-P7	D430-G9
DR14-A6	DR57-L8	DR92-M6	DC13-B6	DC55-M7	DC102-R4	D431-H9
DR15-E8	DR60-N1	DR93-N5	DC14-A6	DC56-M9	DC103-M9	D461-P2
DR16-E8	DR61-R2	DR94-N4	DC15-A5	DC57-M7	DC104-F3	D476-M2
DR23-E3	DR63-H2	DR99-P10	DC20-H5	DC60-J1		D488-M4
DR24-E4	DR64-H2	DR100-P8	DC21-E9	DC61-P1		D490-P6
DR25-E2	DR66-I3	DR104-F5	DC22-A8	DC63-G4		D499-R7
DR26-C2	DR67-K2	DR108-E5	DC23-C10	DC64-H3		D495-H8
DR28-K7	DR70-I1	DR112-F6	DC24-A8	DC65-K3		D496-R8
DR30-G9	DR71-J4		DC15-03	DC66-H4		D497-N9
DR31-G8	DR72-I4		DC26-A2	DC67-K1		D498-N8
DR40-G3	DR73-K4		DC30-H9	DC68-N2		D499-N8
DR41-GA	DR74-L3		DC31-C6	DC69-N3		
DR42-G2	DR75-L2		DC40-E1	DC70-J2		
DR43-G4	DR76-M3	23-N	DC41-F5	DC71-J3		
DR44-G2	DR78-G6		DC42-F1	DC72-K3		

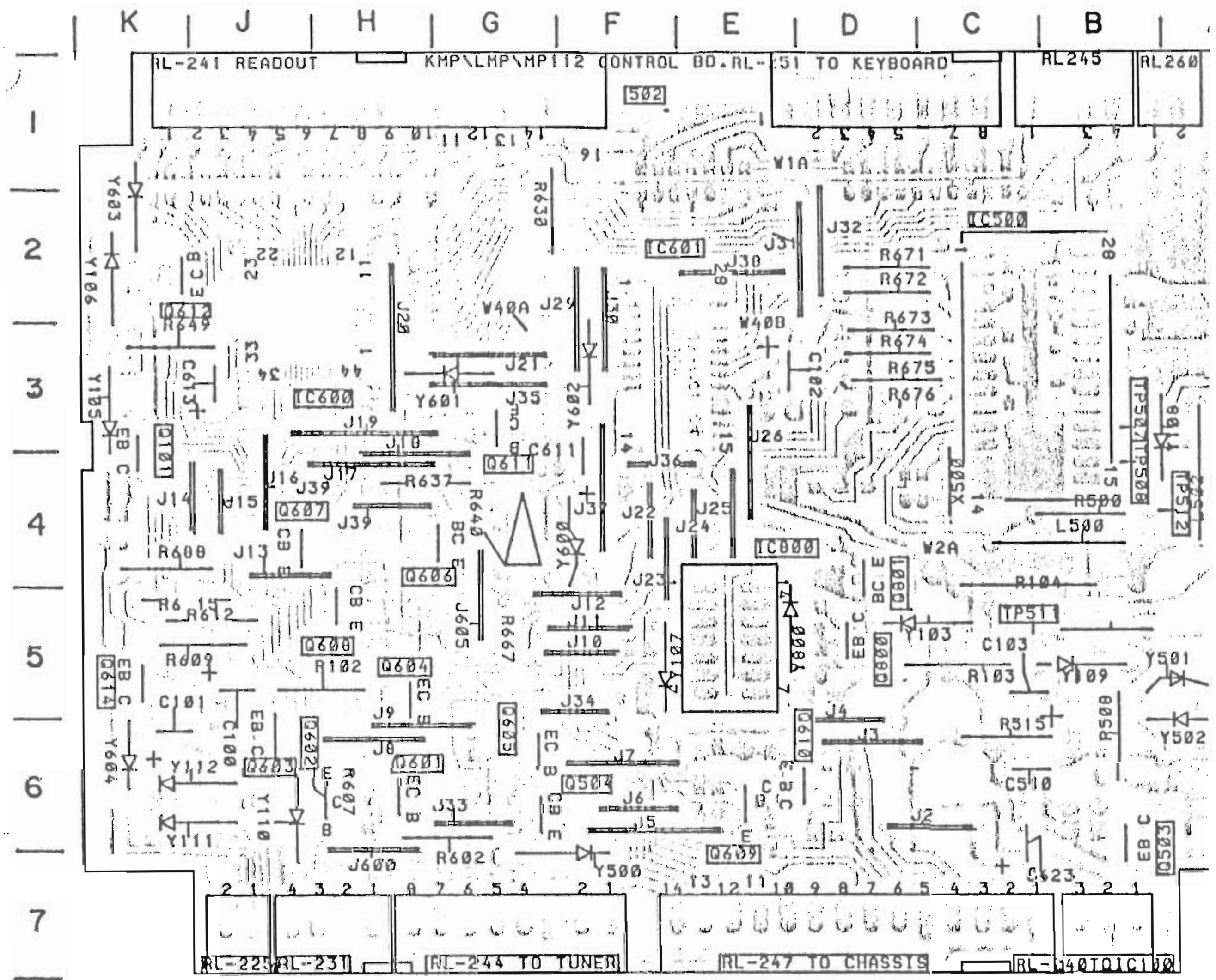
TRANSFORMERS
DT21-D10
DT22-A9
DT23-B10
DT24-B7

INTEGRATED CIRCUIT
DIC35-I6

TRANSISTORS	
DQ04-D5	DQ65-H4
DQ12-E6	DQ67-K2
DQ16-E7	DQ72-C3
DQ21-D8	DQ74-L2
DQ22-B9	DQ76-L3
DQ23-C9	DQ90-N5
DQ24-B8	DQ92-M4
DQ25-E2	DQ94-R6
DQ30-H8	DQ99-D9

KMP/LMP/MP–112 ELECTRONIC TUNER CO

EP93X412 (MP112) ——— EP9



COMPONENT SIDE

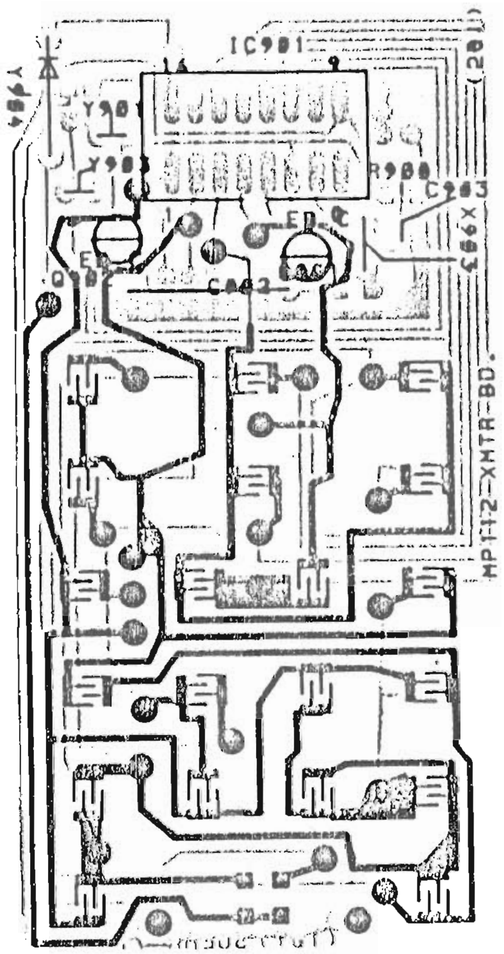
RESISTORS

R101-K4	R516-A3	R617-J5	• R639-G4	R660-H2	R679-D2	• R802-D5
• R102-J5	R517-B7	R619-E2	• R640-G4	R661-H2	R680-D3	• R803-D4
R103-C5	R601-F7	R620-D2	• R641-G4	R662-H1	R681-D3	
R105-K4	R602-G7	R621-D2	• R642-E6	R663-G1	R682-D4	
R106-K3	R603-H6	R622-C2	• R643-F6	R664-F5	R683-D4	
•• R107-K2	R603-D4	R623-C2	• R644-E6	R665-K2	R684-B1	
R500-B4	R604-H6	R625-C2	• R645-E6	R666-G4	R685-B1	
R501-A3	R605-J6	R626-D2	R648-J3	R667-G5	R687-E6	
R502-B5	R606-G7	R627-E2	R649-K3	R668-G3	• R688-K5	
R503-A4	R607-H6	R628-E2	R650-K2	R669-K2	• R689-K5	
R507-A6	R608-F2	R629-F2	R651-K2	R670-K2	• R690-E6	
R508-B6	R609-K5	R629-G2	R652B-J2	R671-D2	• R691-D6	
R509-B6	R610-G6	R631-H2	R653-J2	R672-C2	R692-H5	
R511-C5	R611-G6	R632-G5	R654-J1	R673-C3	• R693-D6	
R511-A6	R612-J5	R633-H4	R655-J2	R674-C3	R694-K6	
R512-A6	R613-G5	R634-H4	R656-J1	R675-C3	R695-F4	
R513-B5	R614-G5	R635-H5	R657-J1	R676-D3	R696-C2	
R514-B5	R615-J5	• R637-H4	R658-J2	R677-E3	R800-E5	
R515-C6	R616-J5	• R638-F4	R659-H2	R678-D2	R801-D5	

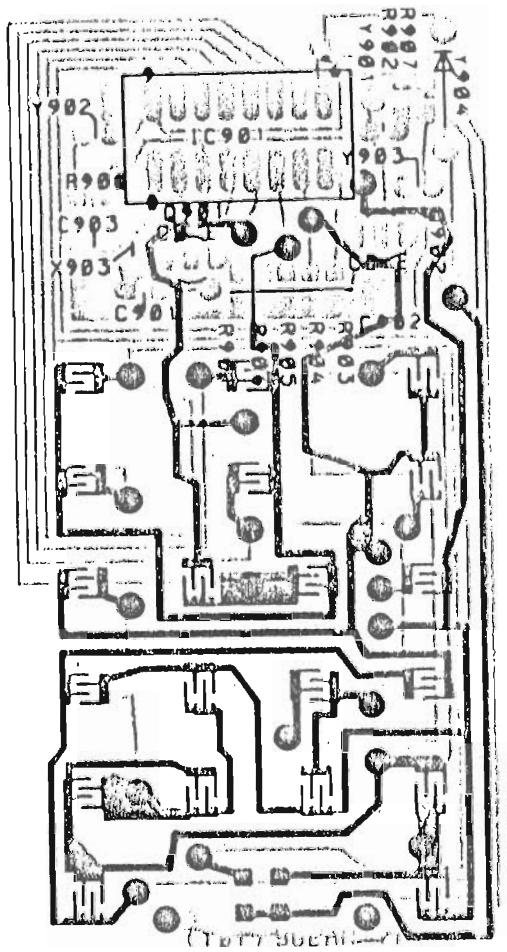
• COMPONENTS NOT USED IN KMP112 CONTROL MODULE ONLY

•• COMPONENTS NOT USED IN LMP/MP–112 CONTROL MODULES ONLY

LMP112 REMOTE TRANSMITTER (EP62X164) COMPONENT LAYOUT AND LOCATION

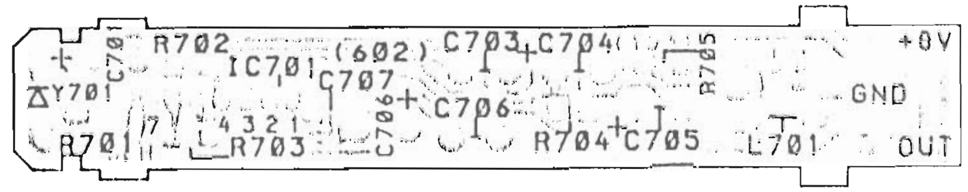


COMPONENT SIDE

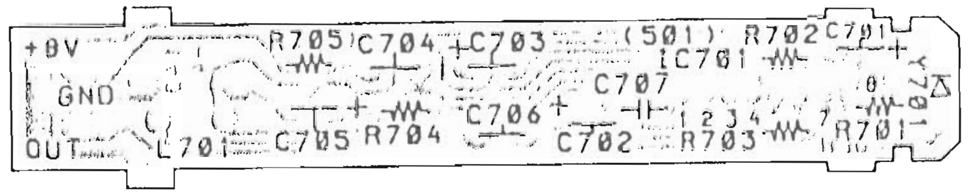


COPPER SIDE

LMP112 REMOTE RECEIVER (EP93X417) COMPONENT LAYOUT AND LOCATION

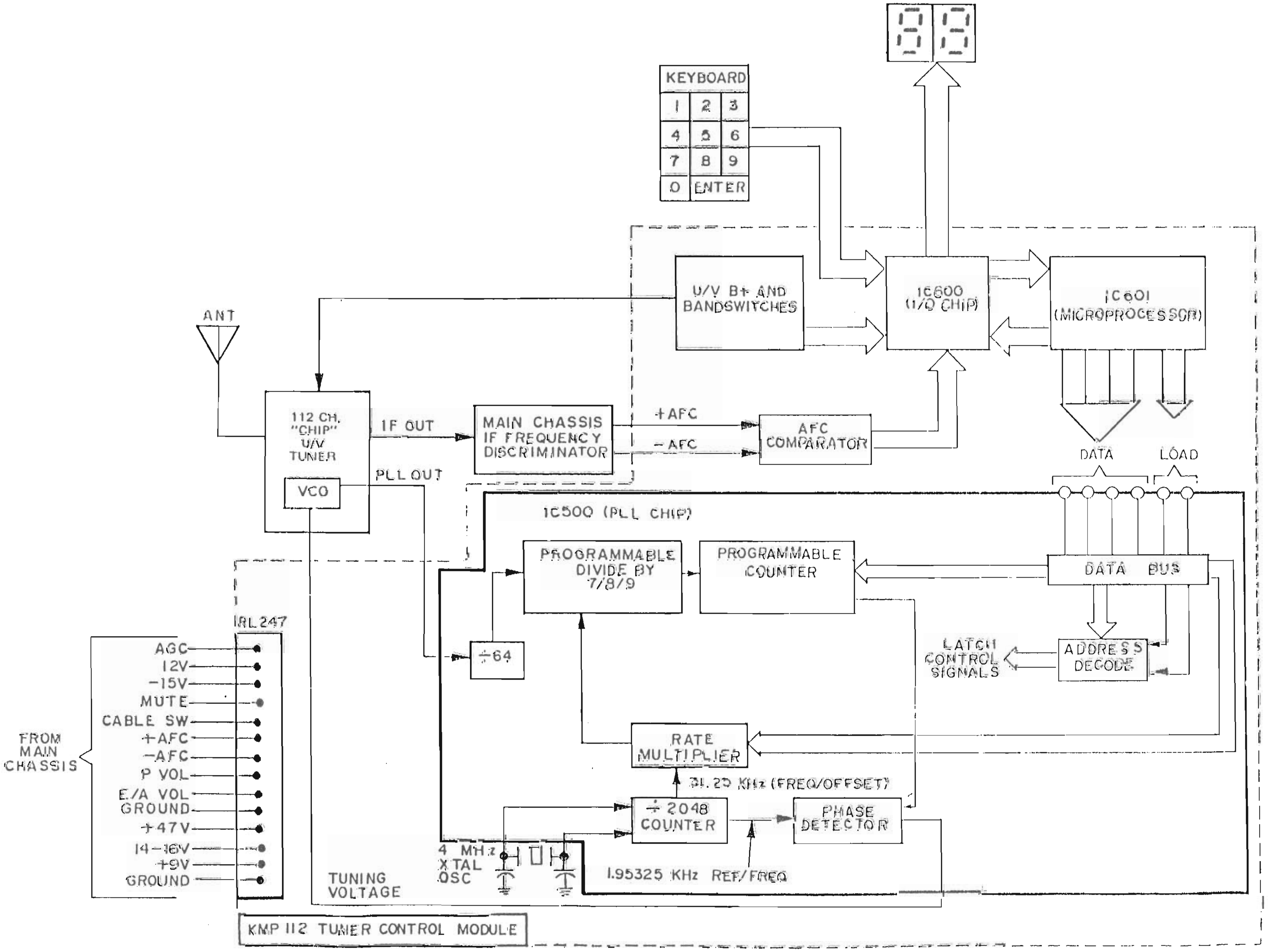


COMPONENT SIDE



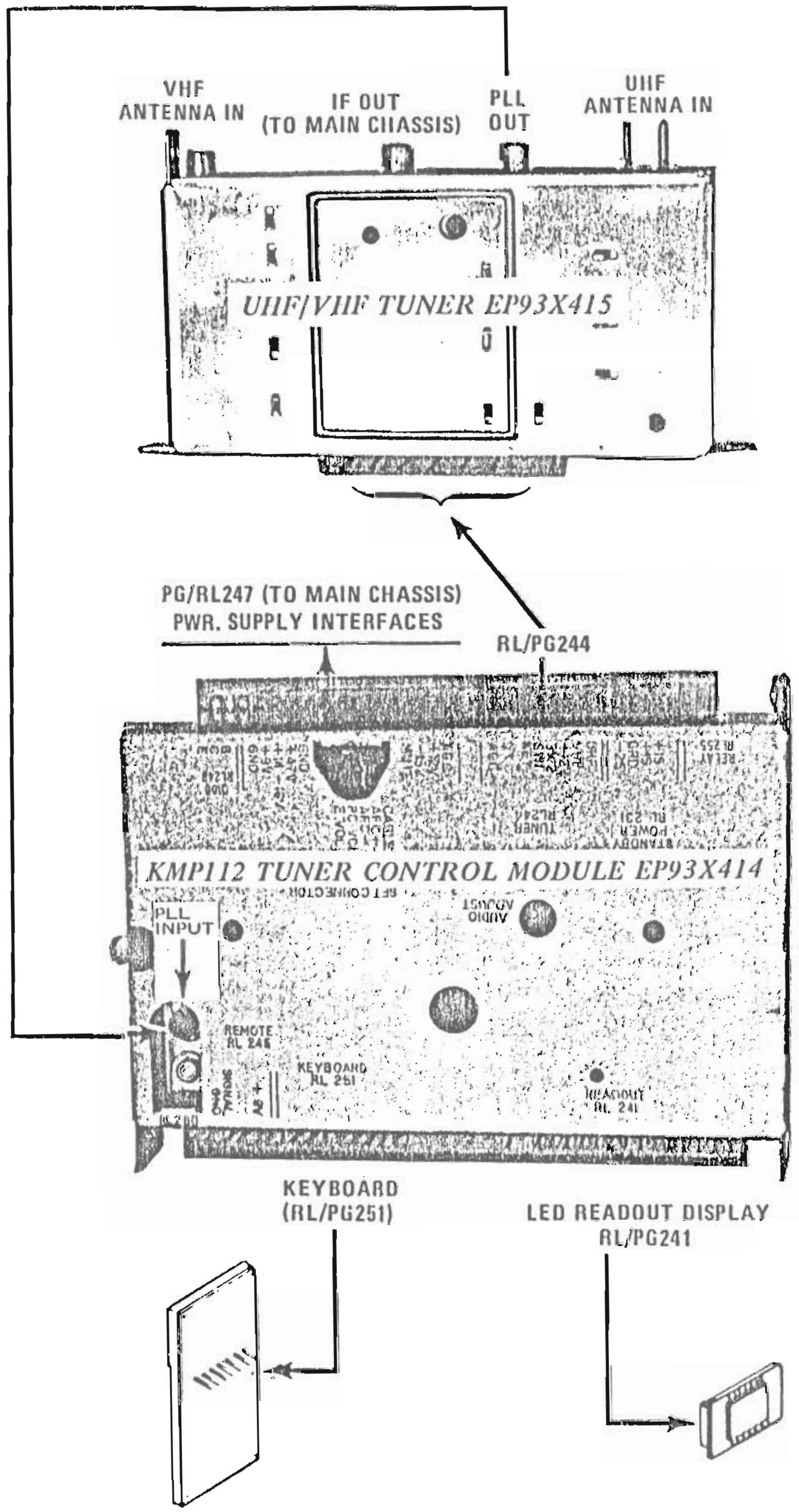
COPPER SIDE

KMP112 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM



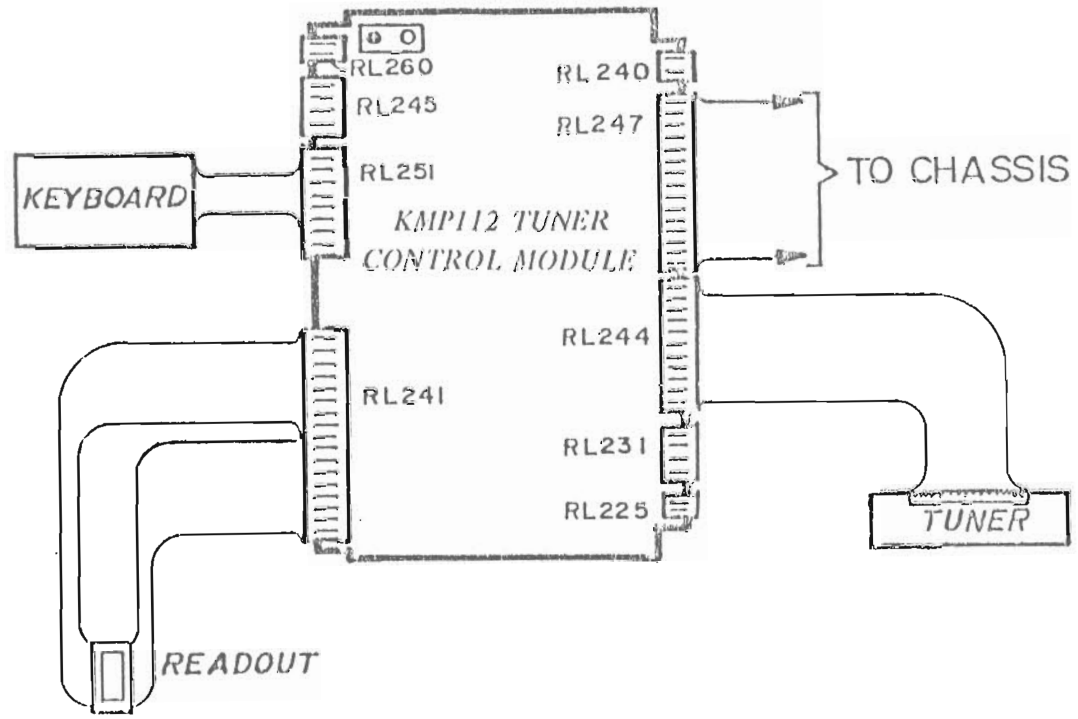
KMP112 TUNING SYSTEM BLOCK DIAGRAM

KMP112 SYSTEM COMPONENT ASSEMBLIES



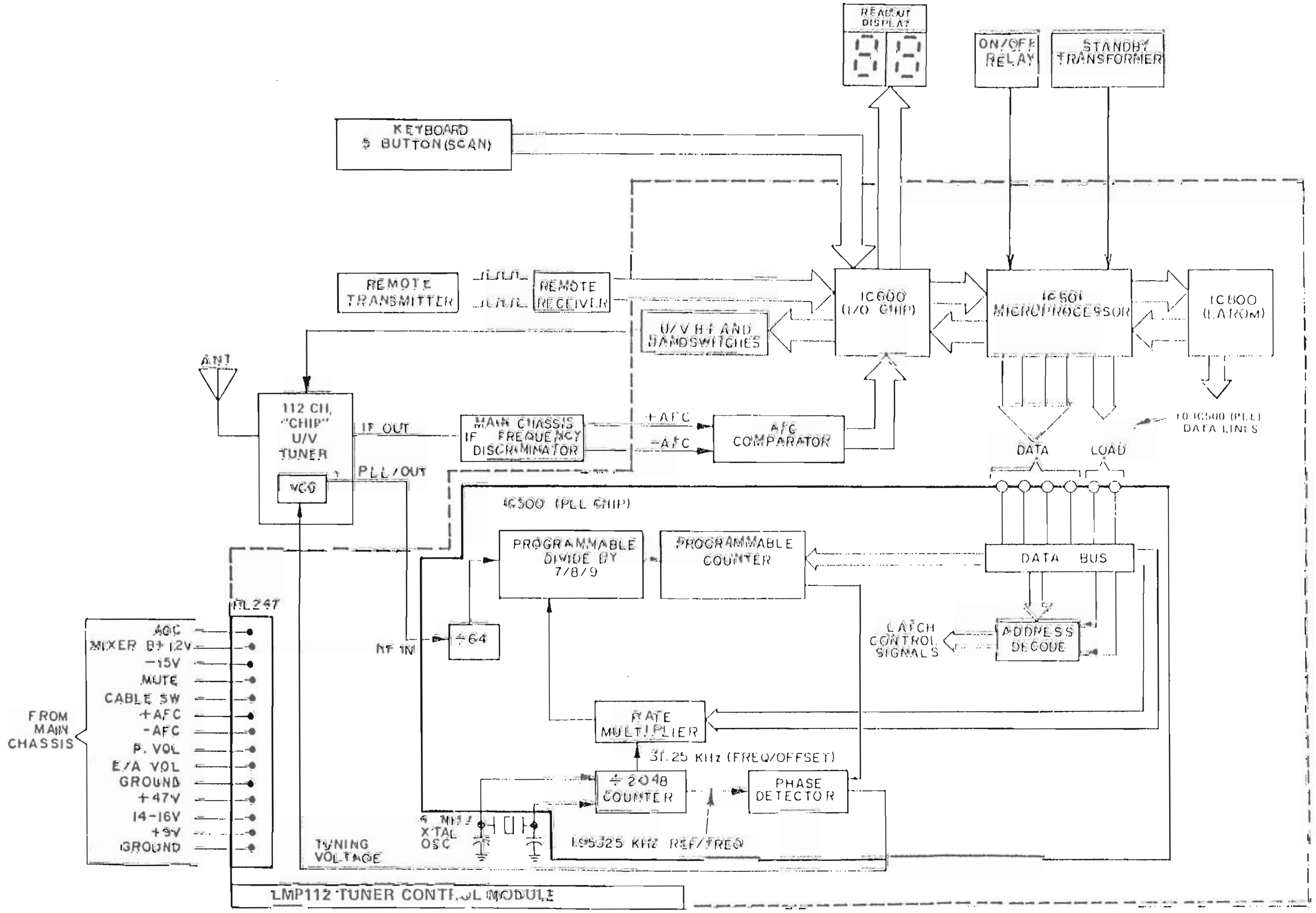
KMP112 SYSTEM COMPONENT ASSEMBLIES

KMP112 CONTROL BOARD PLUG LOCATIONS



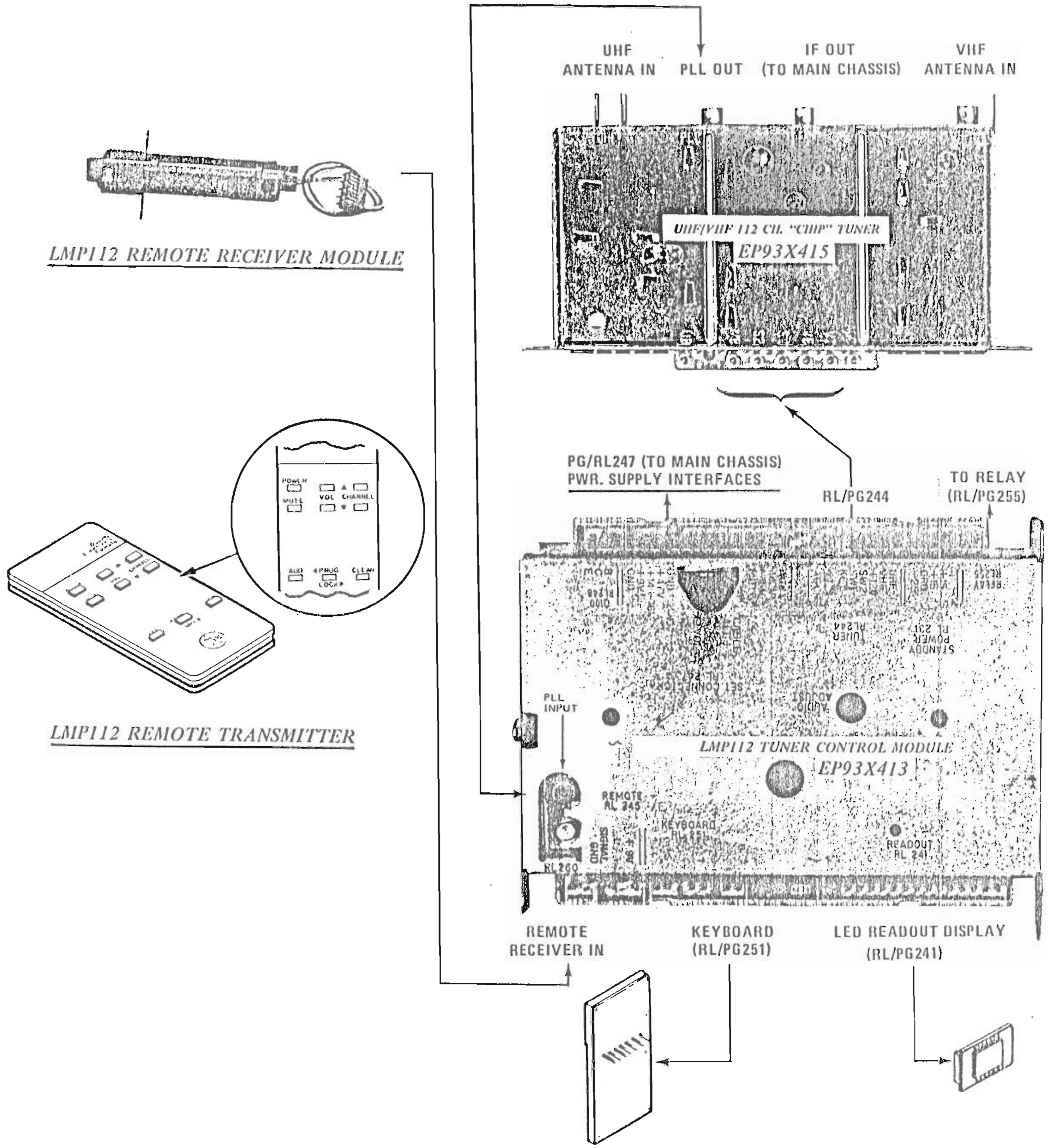
KMP112 CONTROL BOARD PLUG LOCATIONS

LMP112 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM

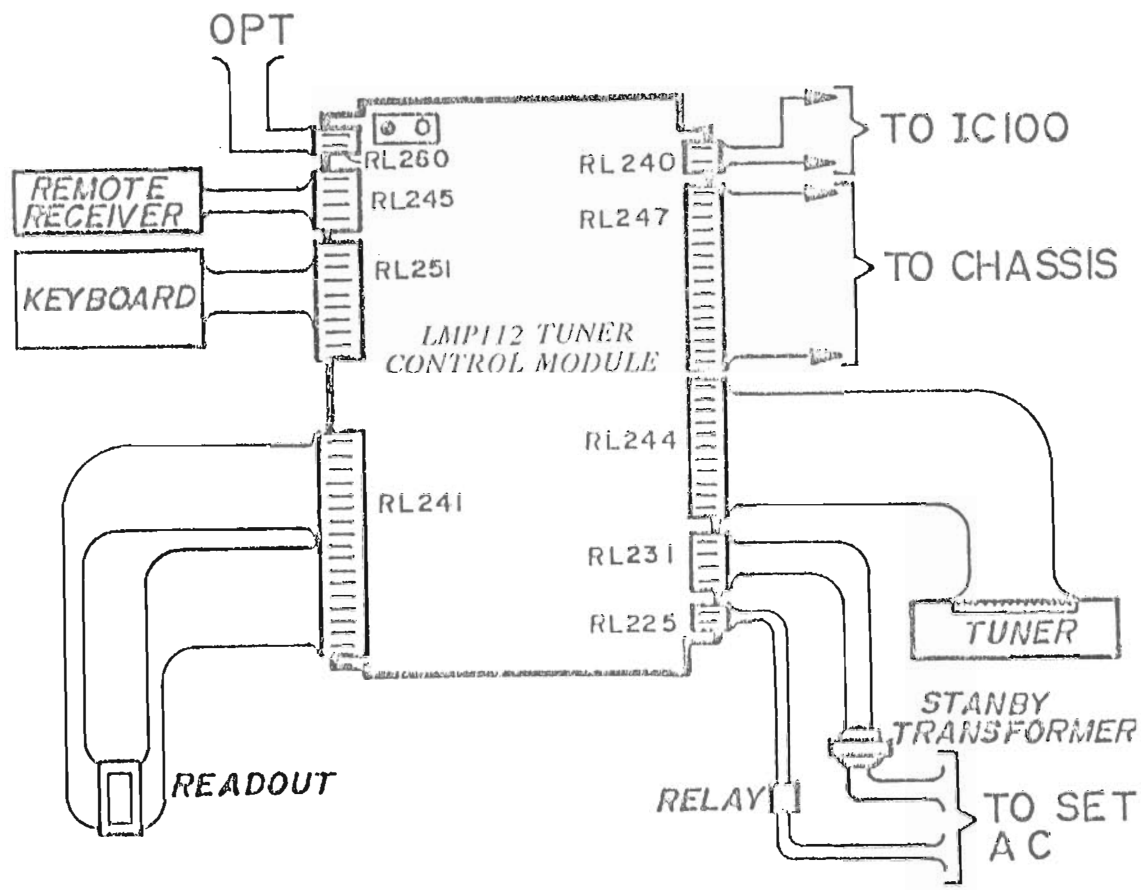


LMP112 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM

LMP112 ELECTRONIC TUNING SYSTEM COMPONENT ASSEMBLIES

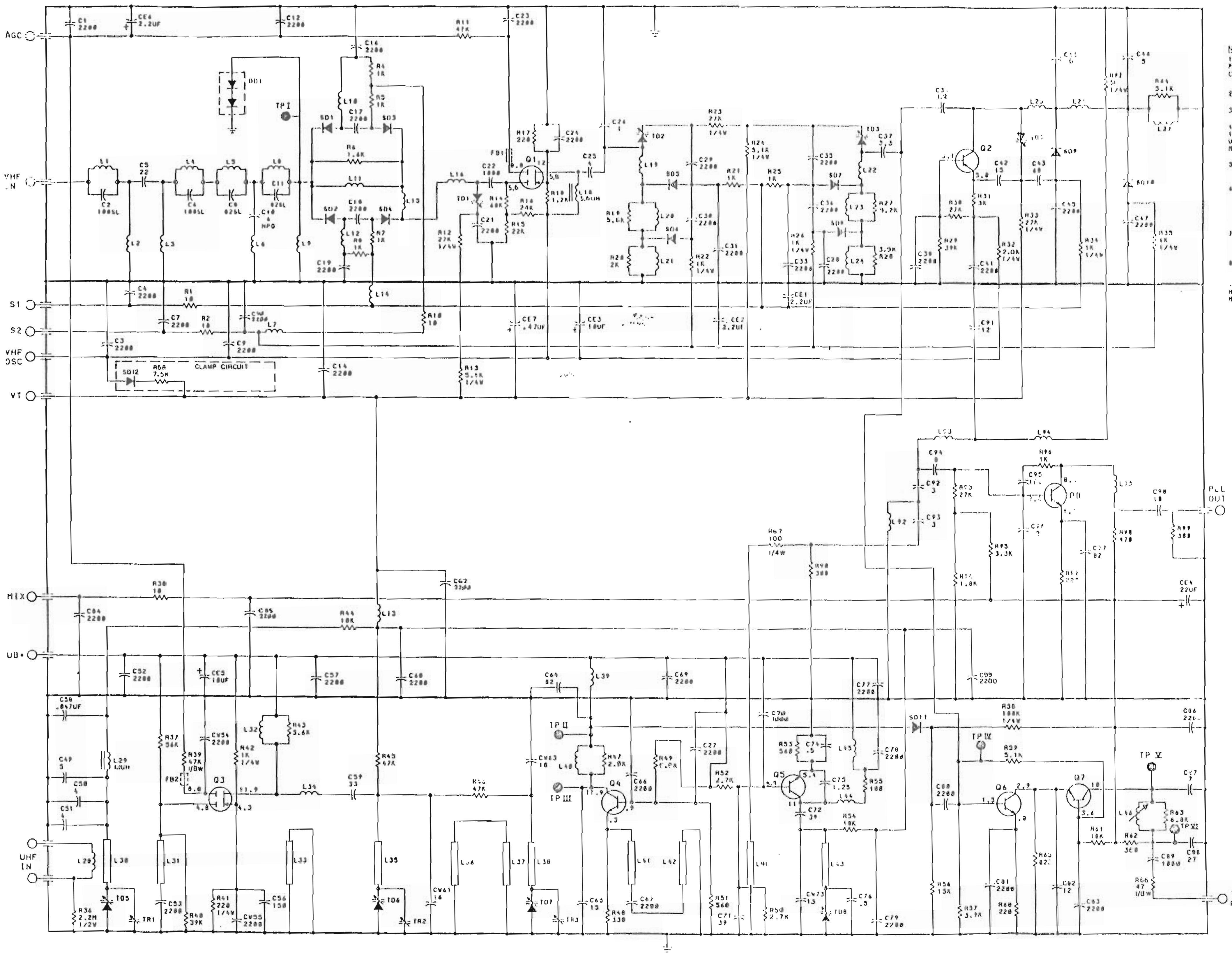


LMP112 TUNER CONTROL BOARD PLUG CONNECTIONS



LMP112 TUNER CONTROL BOARD PLUG CONNECTIONS

UHF/VHF TUNER EP93X416



NOTES:

1. ALL CAPACITANCE VALUES ARE IN PICOFARADS AND CAPACITORS ARE CHIP COMPONENTS UNLESS OTHERWISE SPECIFIED.
2. CV = WEDGE CAP.
3. CE = ELECTROLYTIC CAP.
4. ALL RESISTANCE VALUES ARE IN OHMS, 1/8W AND RESISTORS ARE CHIP COMPONENTS UNLESS OTHERWISE SPECIFIED. K = 1,000 M = 1,000,000.
5. VIDEO IF = 45.75 MHZ
   AUDIO IF = 41.25 MHZ
6. RECEIVING CHANNELS:
   2 - 6
   A-2 - 13
   J -W+3
   14 - 83
7. INPUT IMPEDANCE:
   VHF 75 OHMS
   UHF 300 OHMS
8. OUTPUT IMPEDANCE:
   75 OHMS

.. FOR ALL VOLTAGE MEASUREMENTS USE A HIGH IMPEDANCE VOLTMETER (10 M OHMS OR MORE).

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

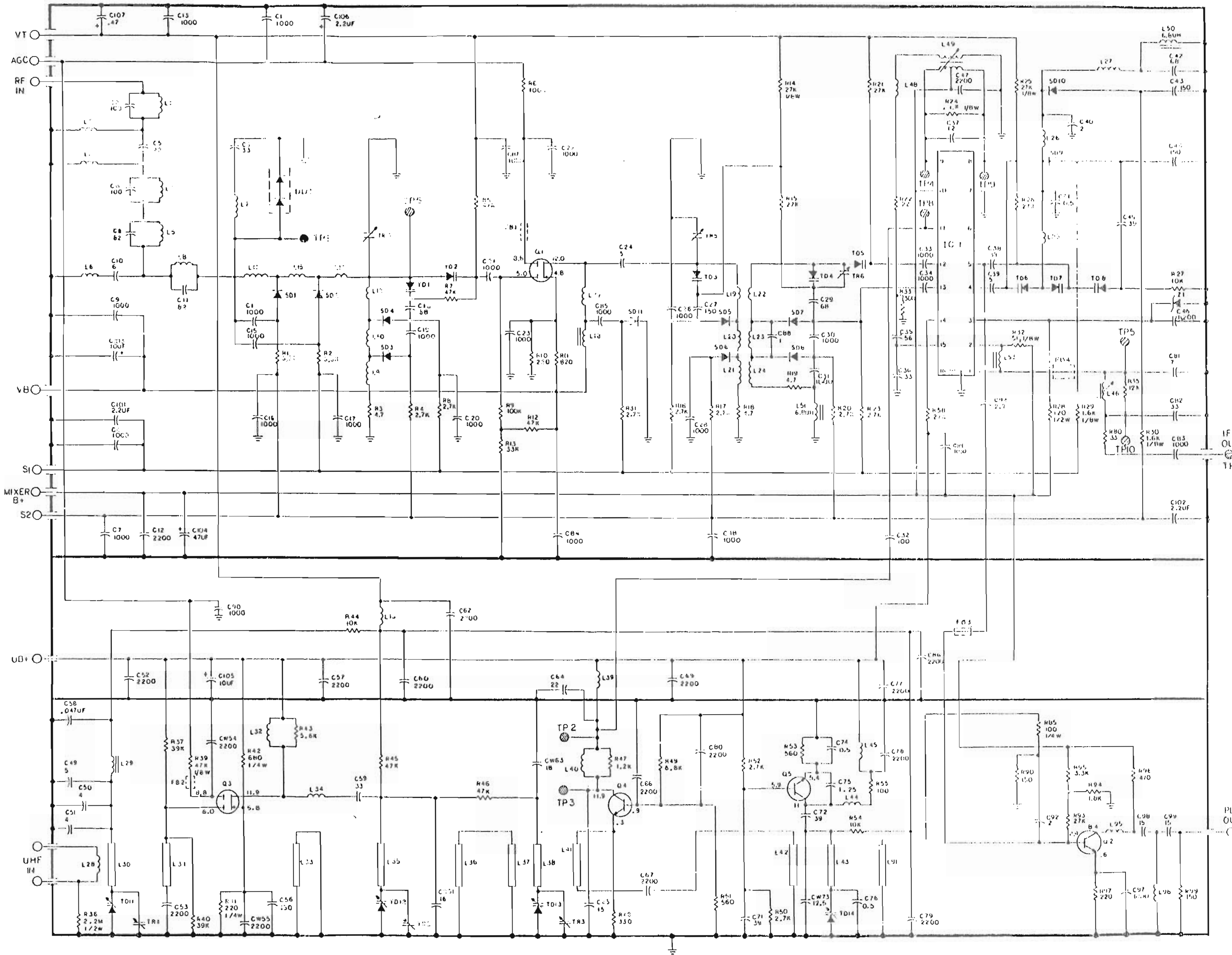
NOTE: FOR REPAIRS REQUIRING PARTS, ORDER A REPLACEMENT TUNER.

UHF/VHF 112 CHANNEL "CHIP" TUNER SCHEMATIC DIAGRAM

UHF/VHF TUNER (EP93X502)

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.



NOTES:

1. ALL CAPACITANCE VALUES ARE IN PICOFARADS AND CAPACITORS ARE CHIP COMPONENTS UNLESS OTHERWISE SPECIFIED.
2. CW = WEDGE CAP.
3. ALL RESISTANCE VALUES ARE IN OHMS, 1/8W, AND RESISTORS ARE CHIP COMPONENTS UNLESS OTHERWISE SPECIFIED. K = 1,000 M = 1,000,000 RESISTORS MARKED 1/8W, 1/4W, AND 1/2W ARE AXIAL RESISTORS.
4. VIDEO IF = 45.75MHZ AUDIO IF = 41.25MHZ
5. RECEIVING CHANNELS: 2 — 6, 7 — 13, 14 — 83
6. INPUT IMPEDANCE: VHF 75 OHMS, UHF 300 OHMS
7. OUTPUT IMPEDANCE: 75 OHMS
8. FOR ALL VOLTAGE MEASUREMENTS USE A HIGH IMPEDANCE VOLTMETER [illegible]

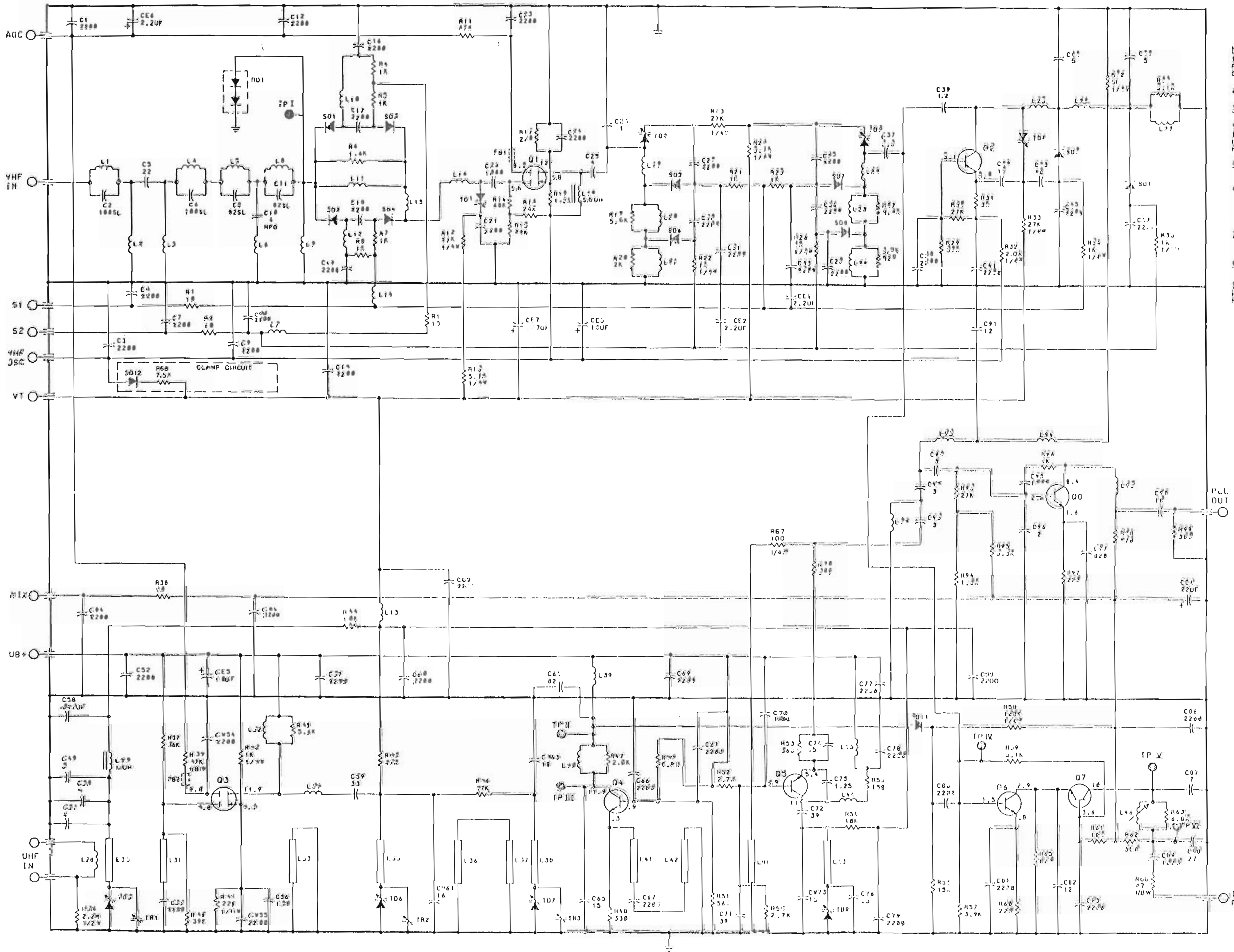
NOTE: FOR REPAIRS REQUIRING PARTS, ORDER A REPLACEMENT TUNER.

UHF/VHF 130 CHANNEL "CHIP" TUNER SCHEMATIC DIAGRAM

UHF/VHF TUNER (EP93X539)

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact catalogued parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.



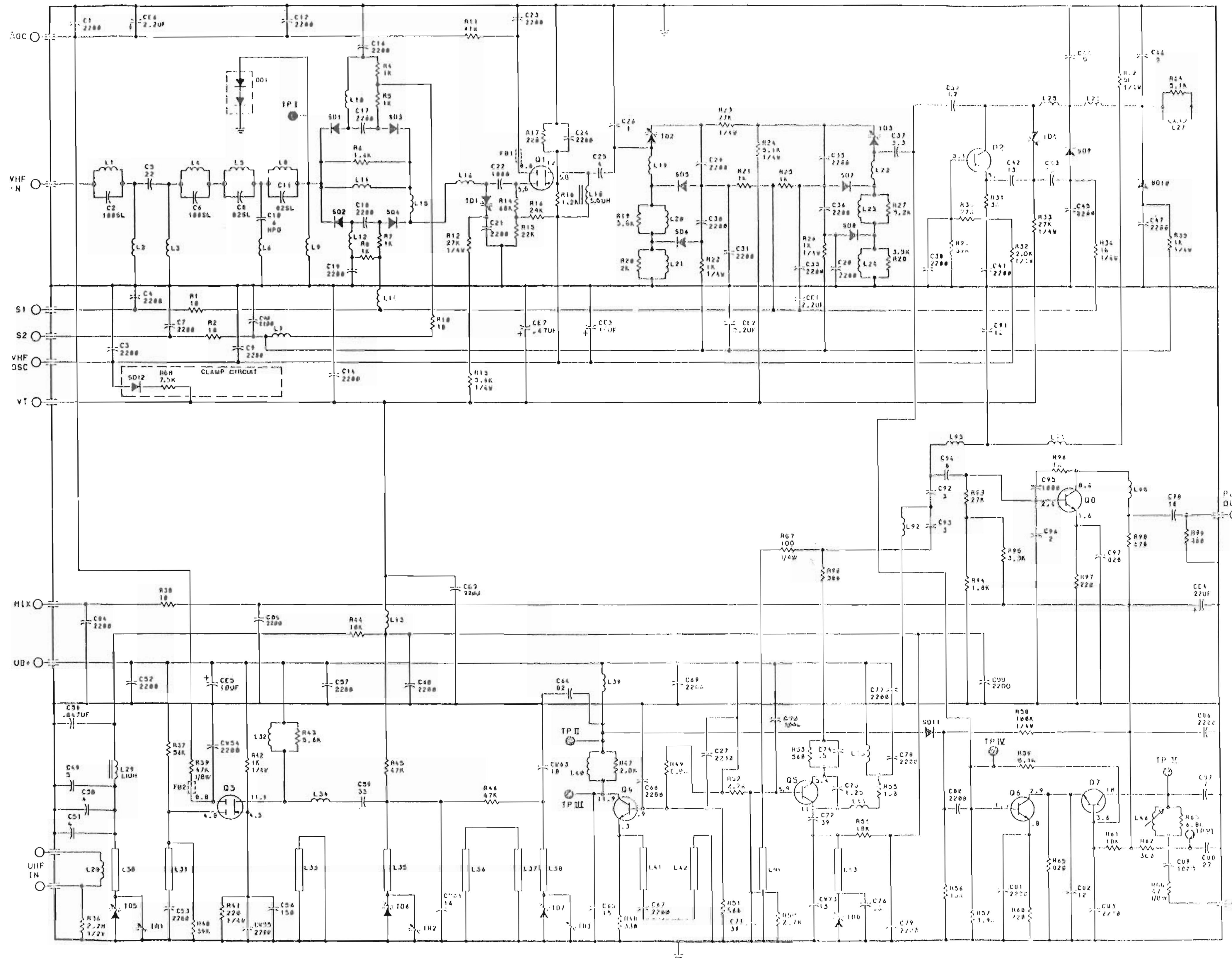
NOTES:

1. ALL CAPACITANCE VALUES A[RE IN] PICOFARADS AND CAPACITORS AR[E CHIP] COMPONENTS UNLESS OTHERWISE
2. CT = DIODE CAP.
3. CE = ELECTROLYTIC CAP.
4. ALL RESISTANCE VALUES AR[E IN OHMS,] 1/8 W AND RESISTORS ARE CHIP UNLESS OTHERWISE SPECIFIED. M = 1,000,000
5. VIDEO IF = 45.75 MHZ; AUDIO IF = 41.25 MHZ
6. RECEIVING CHANNELS:
7. INPUT IMPEDANCE: VHF 75 OHMS; UHF 300 OHMS
8. OUTPUT IMPEDANCE: 75 OHMS
9. FOR ALL VOLTAGE MEASUREM[ENTS] HIGH IMPEDANCE VOLTMETER (1[0 MEG OR] MORE).

NOTE: FOR REPAIRS REQUIRING PARTS, ORDER A REPLACEMENT TUNER.

UHF/VHF 112 CHANNEL "CHIP" TUNER SCHEMATIC DIAGRAM

UHF/VHF TUNER (EP93X539)



NOTES:
1. ALL CAPACITANCE VALUES ARE IN PICOFARADS AND CAPACITORS ARE CHIP COMPONENTS UNLESS OTHERWISE SPECIFIED.
2. CV = WEDGE CAP.
3. CE = ELECTROLYTIC CAP.
4. ALL RESISTANCE VALUES ARE IN OHMS, 1/8W AND RESISTORS ARE CHIP COMPONENTS UNLESS OTHERWISE SPECIFIED. K = 1,000 M = 1,000,000.
5. VIDEO IF = 45.75 MHZ
   AUDIO IF = 41.25 MHZ
6. RECEIVING CHANNELS:
   2 - 6
   A-2 - 13
   J - W+3
   14 - 83
7. INPUT IMPEDANCE:
   VHF 75 OHMS
   UHF 300 OHMS
8. OUTPUT IMPEDANCE:
   75 OHMS
9. FOR ALL VOLTAGE MEASUREMENTS USE A HIGH IMPEDANCE VOLTMETER (10 M OHMS OR MORE).

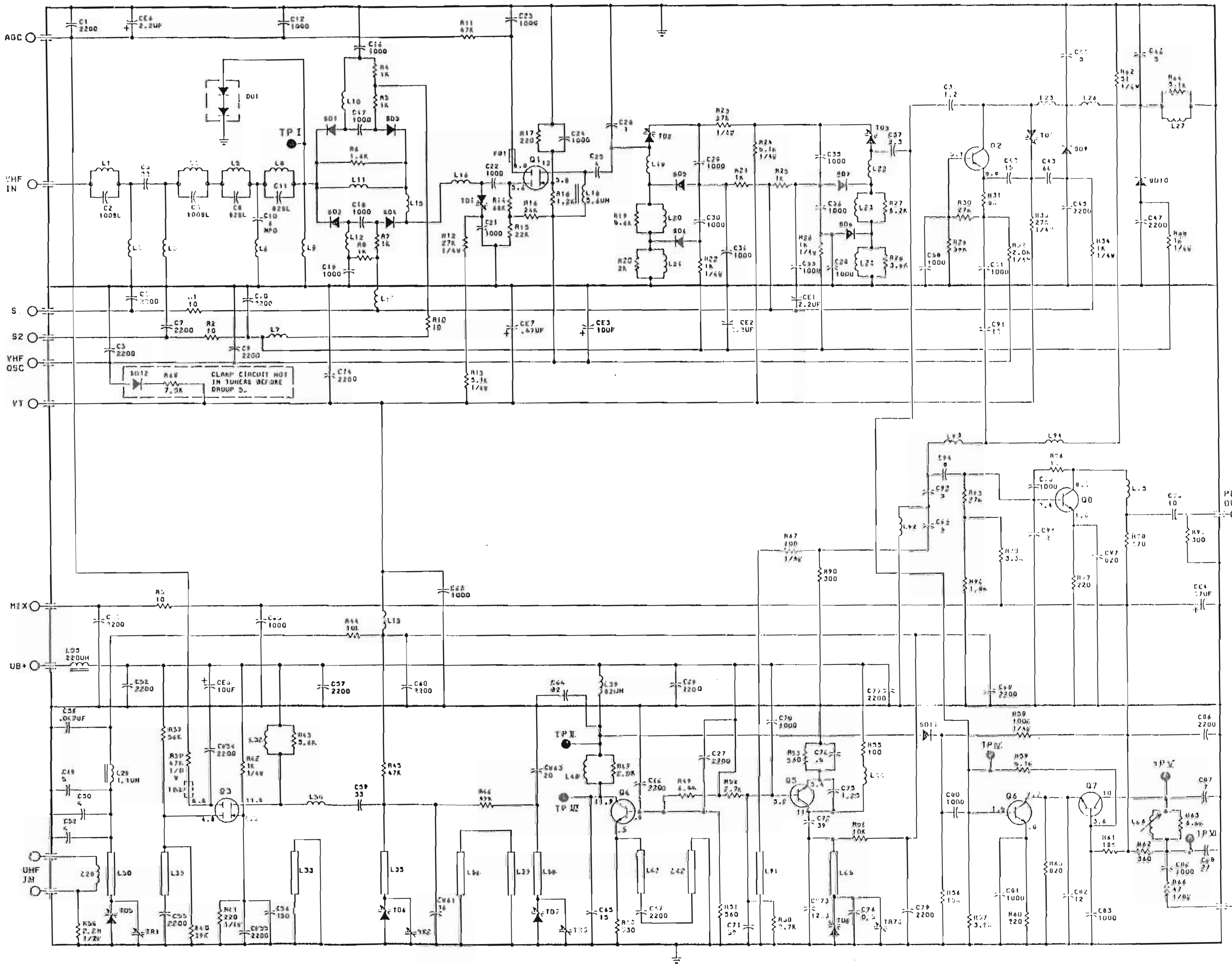
IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

NOTE: FOR REPAIRS REQUIRING PARTS, ORDER A REPLACEMENT TUNER.

UHF/VHF 112 CHANNEL "CHIP" TUNER SCHEMATIC DIAGRAM

UHF/VHF TUNER EP93X575



SCHEMATIC
112 CH. CHIP TUNER

NOTES:

1. ALL CAPACITANCE VALUES ARE IN PICOFARADS AND CAPACITORS ARE CHIP COMPONENTS UNLESS OTHERWISE SPECIFIED.
2. CV = GLASS CAP.
3. CE = ELECTROLYTIC CAP.
4. ALL RESISTANCE VALUES ARE IN OHMS, 1/8W AND RESISTORS ARE CHIP COMPONENTS UNLESS OTHERWISE SPECIFIED. K = 1,000 M = 1,000,000.
5. VIDEO IF = 45.75 MHZ
   AUDIO IF = 41.25 MHZ
6. RECEIVING CHANNELS:
   2 - 6
   A-2 - 13
   J - W+5
   14 - 83
7. INPUT IMPEDANCE:
   VHF 75 OHMS
   UHF 300 OHMS
8. OUTPUT IMPEDANCE:
   75 OHMS
9. FOR ALL VOLTAGE MEASUREMENTS USE A HIGH IMPEDANCE VOLTMETER (10 M OHMS OR MORE).
10.
11.

RECEIVING BAND	BAND I	BAND II	BAND III	BAND IV
SW1 +/-10%	-15V	-15V	+9V	-15V
SW2 +/-10%	-15V	+9V	+9V	+9V
VHF RF & OSC B+ +/-10%	+12V	+12V	+12V	0V
MIXER B+ +/-10%	+12V	+12V	+12V	+12V
UHF B+ +/-10%	0V	0V	0V	+12V
AGC @ MAX GAIN	8.8V	8.8V	8.8V	8.8V
TUNING VOLTAGE	0-30	0-30	0-30	0-30

12.

SEMICONDUCTOR	DRAWING NO. (PREFIX =75=)
Q1	C186062-1
Q2	C186063-1
Q3	C186067-6
Q4	C186060-1
Q5	C186059-1
Q6	C186060-1
Q7	C186068-1
Q8	C186077-1
TD1-TD4	B145149-1
TD5-TD8	B144164-1
SD1-SD10	B144150-1
SD11,12	B141250-1
ZD1	B142155-1

75E261729-REV10

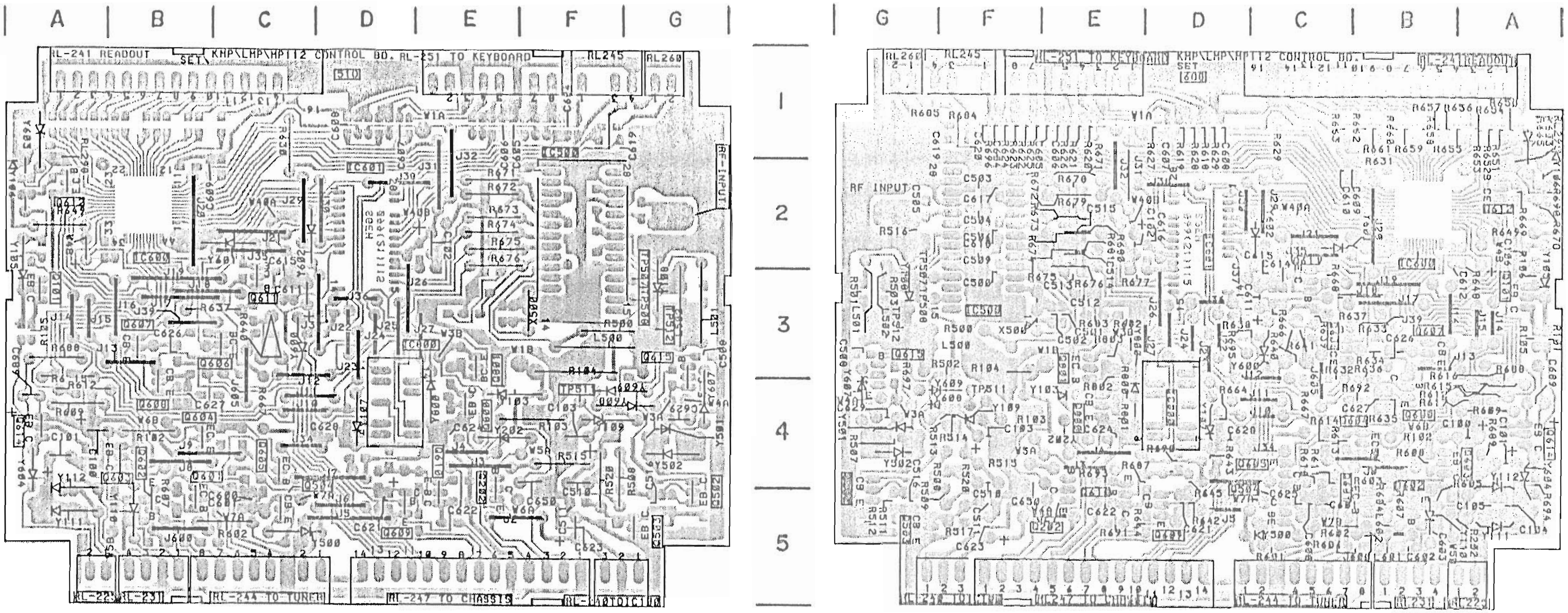
IMPORTANT SAFETY NOTICE

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NOTE: FOR REPAIRS REQUIRING PARTS, ORDER A REPLACEMNT TUNER.

UHF/VHF 112 CHANNEL "CHIP" TUNER SCHEMATIC DIAGRAM

SET/KMP/KMPV/KMPS/LMP/MP TUNER CONTROL MODULE CIRCUIT BOARD LAYOUT



COMPONENT SIDE

COPPER (AND "CHIP" COMPONENTS) SIDE

RESISTORS
R102-B4
R103-F4
R104-F3
R105-A3
R315-F4
R500-F3
R508-G4
R520-F4
R602-C5
R607-B5
R609-A4
R612-A4
R615-A4
R630-C1
R637-B3
R640-C3
R649-A2
R667-C4
R671-E2
R672-E2
R673-E2
R674-E2
R675-E2
R676-E2
R688-A3

CAPACITORS
C100-A4
C101-A4
C102-E2
C103-F4
C508-G3
C510-F4
C511-F5
C516-G4
C689-A3
C600-C5
C601-C5
C604-F1
C605-E1
C606-E1
C607-D1
C608-D1
C609-B2
C611-C3
C615-C2
C619-G1
C621-D5
C622-E5
C623-F5
C626-G3
C627-B4
C628-D4
C629-G4
C650-F5

DIODES
Y103-E4
Y105-A2
Y106-A2
Y107-D4
Y108-G3
Y109-F4
Y110-B5
Y111-A5
Y112-A4
Y202-E4
Y500-C5
Y501-G4
Y502-G4
Y600-C3
Y601-C2
Y602-C2
Y603-A1
Y604-A4
Y607-G3
Y608-F4
Y609-G4
Y800-E4

TRANSISTORS
A101-A3
Q202-E5
Q502-G4
Q503-G5
Q601-B4
Q602-B4
Q603-B4
Q604-B4
Q605-C4
Q606-B3
Q607-B3
Q608-B4
Q609-D5
Q610-E4
Q611-C3
Q612-A2
Q614-A4
Q615-G3
Q800-E4
Q801-E3

CRYSTAL
X500-F3

COILS
L500-F3
L501-G3
L502-G3

INTERGRATED CIRCUITS
IC500-F1
IC600-B2
IC601-D2
IC800-D3

RECEPTACLES
RL225-A5
RL231-B5
RL240-F5
RL241-A1
RL244-C5
RL245-F1
RL247-D5
RL251-D1
RL260-G1
RL298-A1

TEST POINTS
TP507-G2
TP508-G3
TP511-F4
TP512-G3

JUMPERS
J2-E5
J3-E4
J3-C3
J4-E4
J5-D5
J6-D5
J7-D4
J8-B4
J9-B4
J10-C4
J11-C4
J13-B3
J14-A3
J15-A3
J16-B3
J17-B3
J18-B3
J19-B3
J20-B2
J21-C2
J22-D3
J23-D3
J24-D3
J25-D3
J26-D3
J28-D2
J29-C2
J30-D2
J31-E2
J32-E1
J34-C4
J35-C2
J36-D3
J38-D2
J39-B3
J600-B5
J605-C4

112/130 CHANNEL ELECTRONIC TUNING SYSTEM TROUBLESHOOTING FLOW CHARTS

General: To help troubleshoot the 112/130 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

I. POWER SUPPLIES

NOTE:
RL225 Pin 1, +15 V must be correct before the set will switch on. If supplies are OK, the ON/OFF relay may be forced on by grounding pin 2 of RL/PG225 through a 100 ohm, ½ watt resistor. Replace Q614 if necessary, otherwise inspect TV power supplies.

1. Do not unplug, but do check all voltages at RL/PG247. (Check +15V only if the IC100 9V Regulator is included with the tuner control module).
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (—) 27V supply to IC800, EAROM.
3. Check RL225, pin 1 for ON/OFF Relay B+ 13 to 17VDC.
4. Check RL245, pin 1 for Remote Receiver B+ 7.5 to 8.5 VDC.
5. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

II. TROUBLESHOOTING ORDER

In order of probability after checking power supplies, wires, cable switch , Remote Transmitter and Remote Receiver, check:

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC800 (EAROM)
6. IC500 (PLL CHIP)

III. CATEGORIZED SYMPTOMS

1. KEYBOARD INOPERATIVE/HAS RASTER

Unplug set for 10 seconds to allow microprocessor to reset.

2. NO REMOTE CONTROL/ KEYBOARD OK
(Note: LMP/MP 5-button keyboard follows favorite/sequential action of transmitter).

Check Transmitter

3. DARK RASTER/CHANNEL DISPLAY OK

Check U/V Tuner

4. SNOWY RASTER

(UHF or VHF only, VHF Hi/Lo or Cable Only).

Check Bandswitch Transistors

5. NO CHANNEL/NO KEYBOARD/NO REMOTE
(With Relay Forced On)

Check Microprocessor (IC601)

6. NO LAST OR FAVORITE CHANNEL MEMORY
(During Power Failure)

Check IC800

7. CHANNEL DISPLAY OK/ CHANNELS OFF FREQUENCY

Check Bandswitch Voltage, if OK, Check IC500 (PLL Chip).

8. NO PICTURE/CHANNEL DISPLAY INCORRECT

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor.

9. PICTURE OK/CHANNEL DISPLAY INCORRECT

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor (IC601), I/O (IC600), or the LED display unit.

10. NO PICTURE/CHANNEL DISPLAY OK

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the UHF/VHF tuner, Video IF, Standby Supply, Microprocessor or the PLL (IC500), and associated circuitry.

UHF/VHF Tuner Check
Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH.1=28VDC, 6=20VDC, 13=19VDC, 33=6.5VDC and 82=26VDC. The presence of these voltages indicate that the PLL (IC500) output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station cannot be tuned in, the UHF/VHF tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR COMPONENT LOCATION (SEE PC CHASSIS LAYOUT - THIS PAGE)

NO COLOR / ABNORMAL COLOR

DOES THE SET HAVE A VIR OR COLOR MONITOR MODULE?

NO → USE AN OSCILLOSCOPE TO CHECK FOR HORIZONTAL FREQUENCY KEYING PULSES (2VPP) ON THE COLLECTOR Q300. (F)

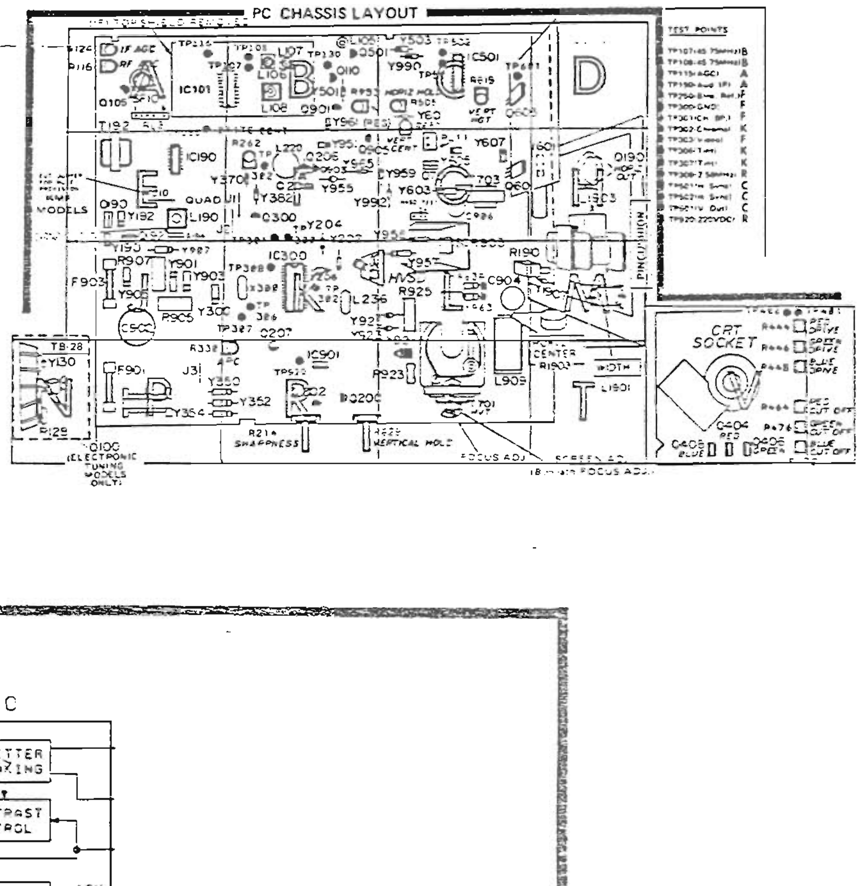
YES → TURN THE VIR OR COLOR MONITOR SWITCH OFF CAN NORMAL COLOR BE OBTAINED?

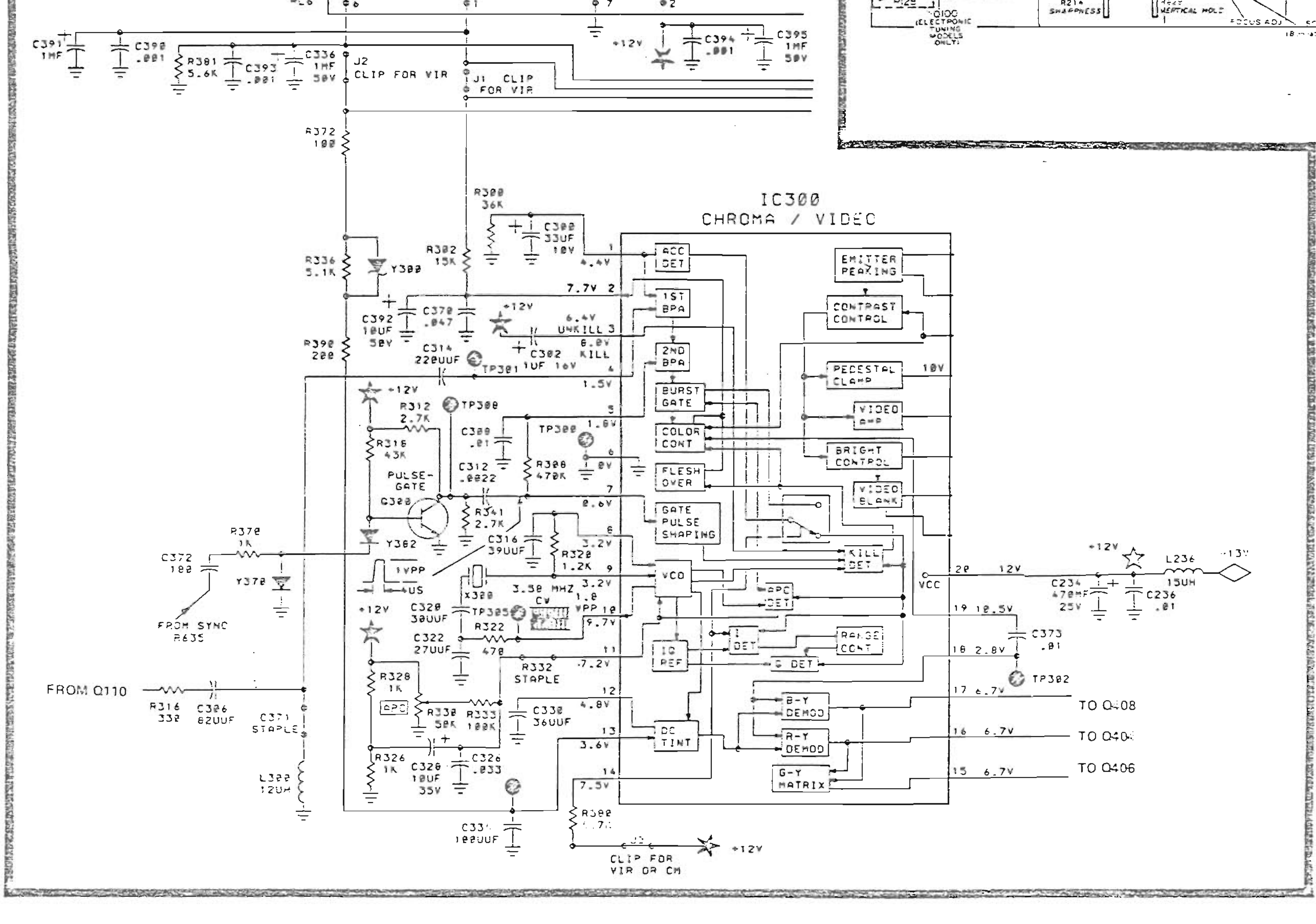
- YES → TURN THE VIR OR COLOR MONITOR SWITCH BACK ON. CHECK THE ADJUSTMENT OF THE PREFERENCE CONTROLS (VIR ONLY). IF NORMAL COLOR IS NOT RESTORED REPLACE THE VIR OR COLOR MONITOR MODULE.
- NO → F P REMOVE THE VIR OR COLOR MONITOR MODULE. USE CLIP LEADS TO RESTORE JUMPER WIRE CONNECTIONS J1, J2, AND J3.* CAN NORMAL COLOR BE OBTAINED?
  - YES → REPLACE THE VIR OR COLOR MONITOR MODULE.
  - NO → F USE AN OSCILLOSCOPE TO CHECK FOR HORIZONTAL FREQUENCY KEYING PULSES (2VPP) ON THE COLLECTOR Q300. ARE THEY THERE?
    - NO → F CHECK Q300 AND ITS ASSOCIATED CIRCUITRY Q300, Y382, AND Y370 SHOULD MEASURE AT LEAST 10:1 FRONT TO BACK, IN CIRCUIT.
    - YES → K MEASURE THE DC VOLTAGES ON IC300 AS SHOWN BELOW. IF ANY VOLTAGES ARE INCORRECT TRY TO DETERMINE THE CAUSE. IF NO SUCCESS REPLACE IC300.

F P

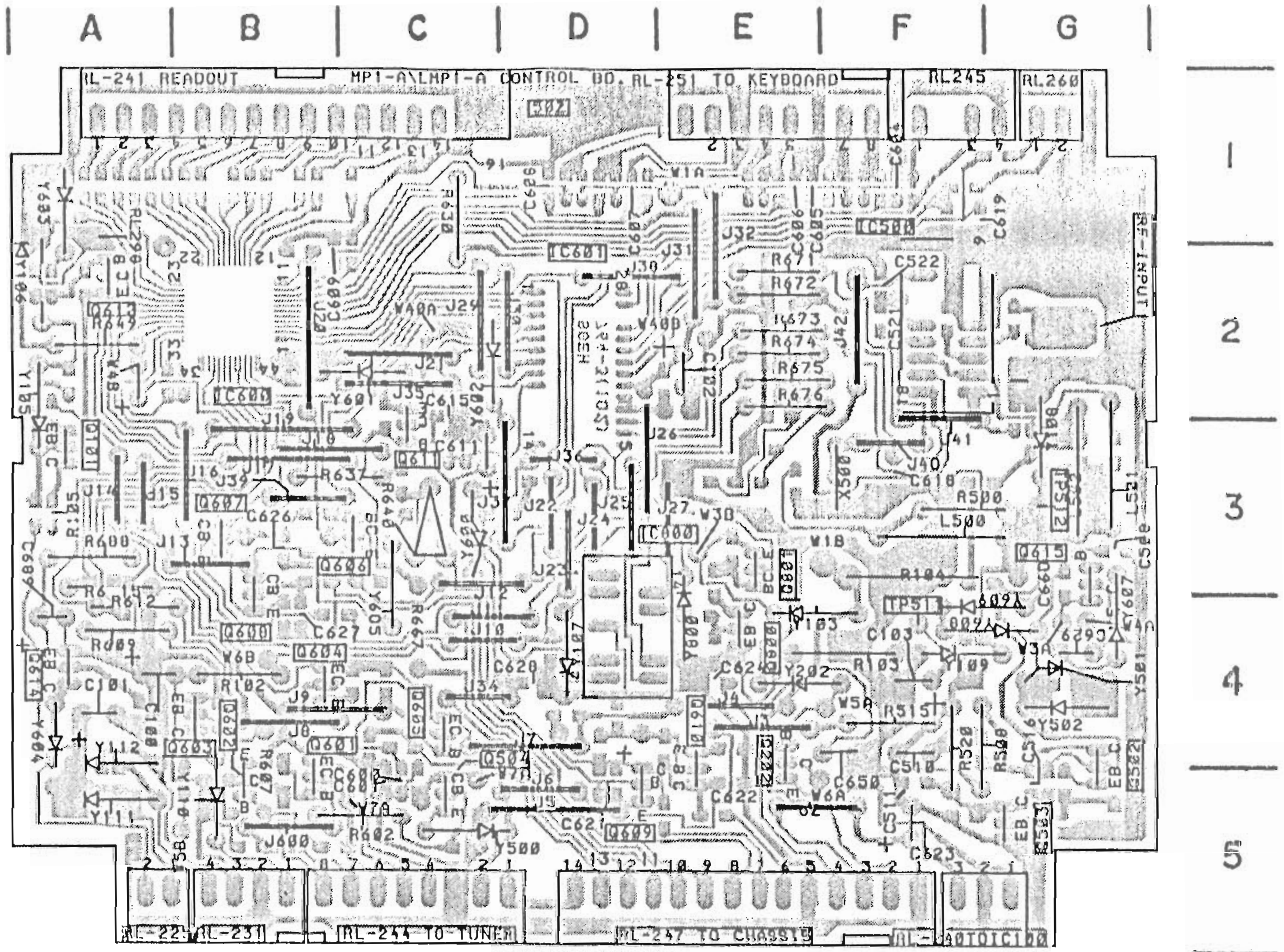
*J3 IS CUT WHEN THE SET USES COLOR MONITOR.
*J1, J2, AND J3 IS CUT WHEN THE SET USES VIR.

PC CHASSIS LAYOUT

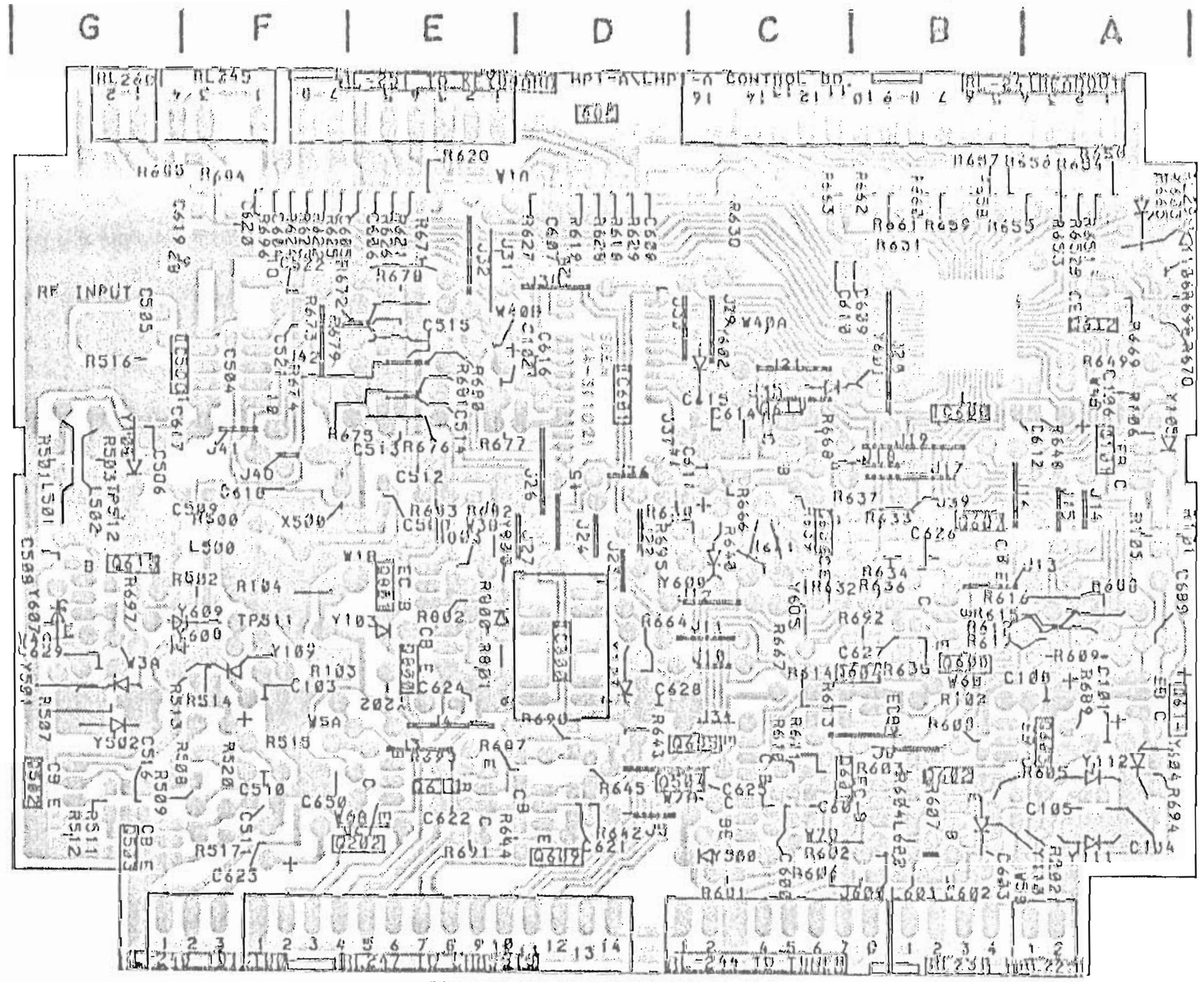




MP1A/MP1B/LMP1A/LMP1B TUNER CONTROL MODULE CIRCUIT BOARD LAYOUT



COMPONENT SIDE



COPPER (AND "CHIP" COMPONENTS) SIDE

RESISTORS
R102-B4
R103-F4
R104-F3
R105-A3
R315-F4
R500-F3
R508-G4
R520-F4
R602-C5
R607-B5
R609-A4
R612-A4
R615-A4
R630-C1
R637-B3
R640-C3
R649-A2
R667-C4
R671-E2
R672-E2
R673-E2
R674-E2
R675-E2
R676-E2
R688-A3

CAPACITORS
C100-A4
C101-A4
C102-E2
C103-F4
C508-G3
C510-F4
C511-F5
C516-G4
C689-A3
C600-C5
C601-C5
C604-F1
C605-E1
C606-E1
C607-D1
C608-D1
C609-B2
C611-C3
C615-C2
C619-G1
C621-D5
C622-E5
C623-F5
C626-G3
C627-B4
C628-D4
C629-G4
C650-F5

DIODES
Y103-E4
Y105-A2
Y106-A2
Y107-D4
Y108-G3
Y109-F4
Y110-B5
Y111-A5
Y112-A4
Y202-E4
Y500-C5
Y501-G4
Y502-G4
Y600-C3
Y601-C2
Y602-C2
Y603-A1
Y604-A4
Y607-G3
Y608-F4
Y609-G4
Y800-E4

TRANSISTORS
A101-A3
Q202-E5
Q502-G4
Q503-G5
Q601-B4
Q602-B4
Q603-B4
Q604-B4
Q605-C4
Q606-B3
Q607-B3
Q608-B4
Q609-D5
Q610-E4
Q611-C3
Q612-A2
Q614-A4
Q615-G3
Q800-E4
Q801-E3

CRYSTAL
X500-F3

COILS
L500-F3
L501-G3
L502-G3

INTEGRATED CIRCUITS
IC500-F1
IC600-B2
IC601-D2
IC800-D3

RECEPTACLES
RL225-A5
RL231-B6
RL240-F5
RL241-A1
RL244-C5
RL245-F1
RL247-D5
RL251-D1
RL260-G1
RL298-A1

TEST POINTS
TP507-G2
TP508-G3
TP511-F4
TP512-G3

JUMPERS
J2-E6
J3-E4
J3-C3
J4-E4
J5-D5
J6-D5
J7-D4
J8-B4
J9-B4
J10-C4
J11-C4
J13-B3
J14-A3
J15-A3
J16-B3
J17-B3
J18-B3
J19-B3
J20-B2
J21-C2
J22-D3
J23-D3
J24-D3
J25-D3
J26-D3
J28-D2
J29-C2
J30-D2
J31-E2
J32-E1
J34-C4
J35-C2
J36-D3
J38-D2
J39-B3
J600-B5
J606-C4

RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR COMPONENT LOCATION (SEE PC CHASSIS LAYOUT - THIS PAGE)

ABNORMAL GRAY SCALE

CHECK THE ADJUSTMENT OF THE CRT DRIVE AND CUTOFF CONTROLS.

V

REMOVE THE POWER FROM THE RECEIVER. REMOVE THE PICTURE TUBE SOCKET. RESTORE THE POWER AND MEASURE THE VOLTAGES ON PINS 6, 8, AND 11 OF THE PICTURE TUBE SOCKET. THE VOLTAGES SHOULD ALL VARY FROM ABOUT +75VDC TO ABOUT +225VDC AS THE BRIGHTNESS AND PICTURE CONTROLS ARE ADJUSTED. ARE THESE VOLTAGES NORMAL?

YES — SUSPECT THE PICTURE TUBE.

NO — **K R**

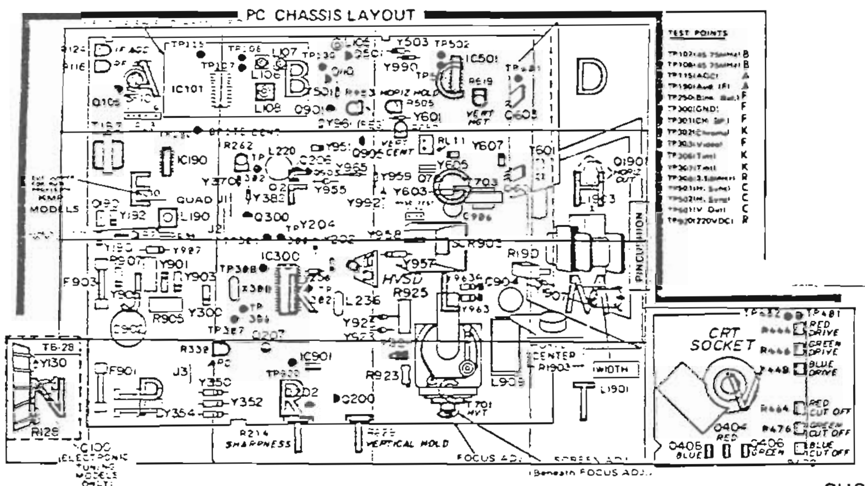
REMOVE POWER FROM THE RECEIVER. RESTORE THE PICTURE TUBE SOCKET. REMOVE PLUG PG4. RESTORE POWER TO THE RECEIVER. MEASURE THE VOLTAGES AT PINS 15, 16, AND 17 OF IC300. ARE ALL THREE VOLTAGES +6.7VDC ±10%?

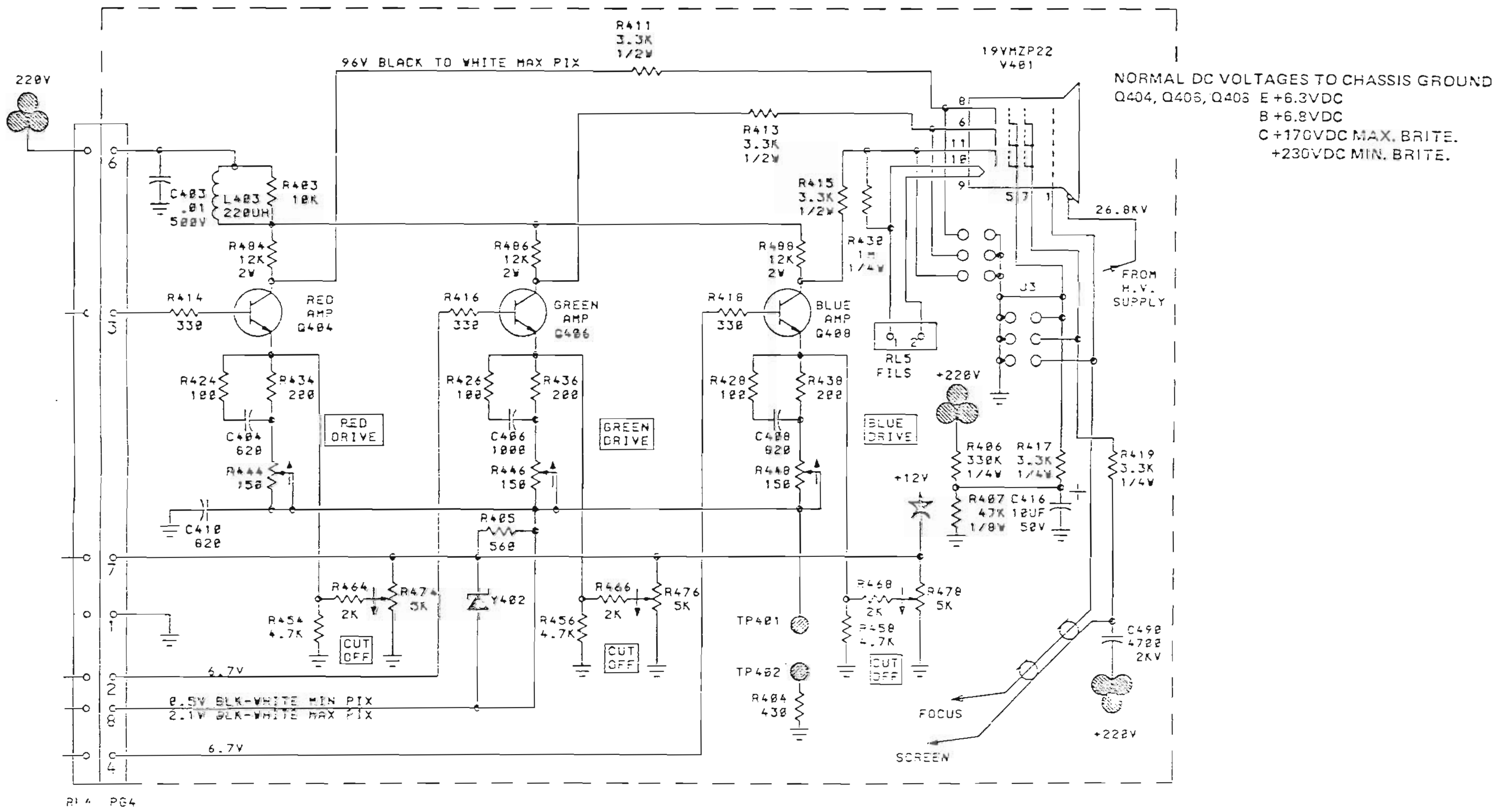
YES — **V**

CHECK THE RGB AMPLIFIER STAGES. Q404, Q406, AND Q408 ARE THE MOST LIKELY COMPONENTS TO FAIL. FRONT TO BACK RESISTANCE SHOULD BE AT LEAST 10:1 IN CIRCUIT.

NO — **K R**

CHECK Y350, Y352, AND Y354. THEIR FRONT TO BACK RESISTANCE SHOULD BE AT LEAST 10:1 IN CIRCUIT. IF THE DIODES ARE GOOD, CHECK FOR SOLDER CONNECTIONS, COMPONENT LEAD DRESS, AND SOLDER SHORTS AROUND PINS 15, 16, AND 17 OF IC300. IF NO SUCCESS REPLACE IC300.





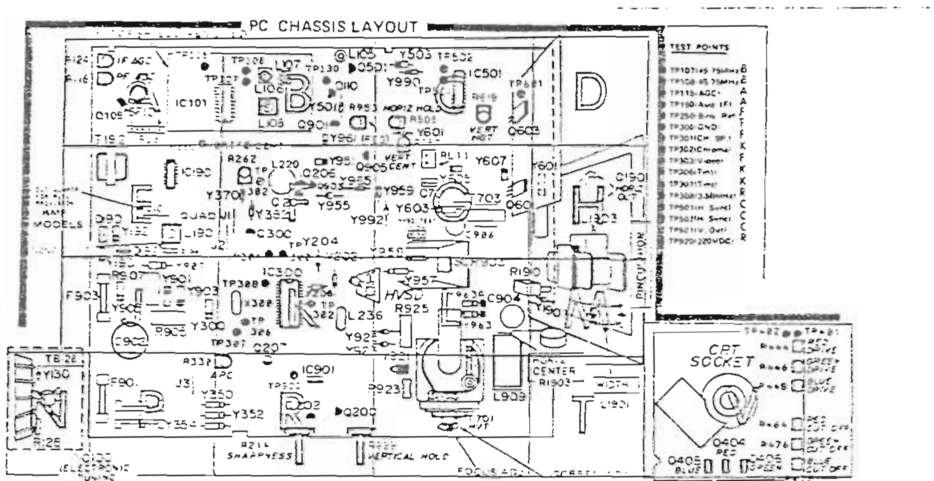
NORMAL DC VOLTAGES TO CHASSIS GROUND
Q404, Q406, Q408 E +6.3VDC
B +6.8VDC
C +170VDC MAX. BRITE.
+230VDC MIN. BRITE.

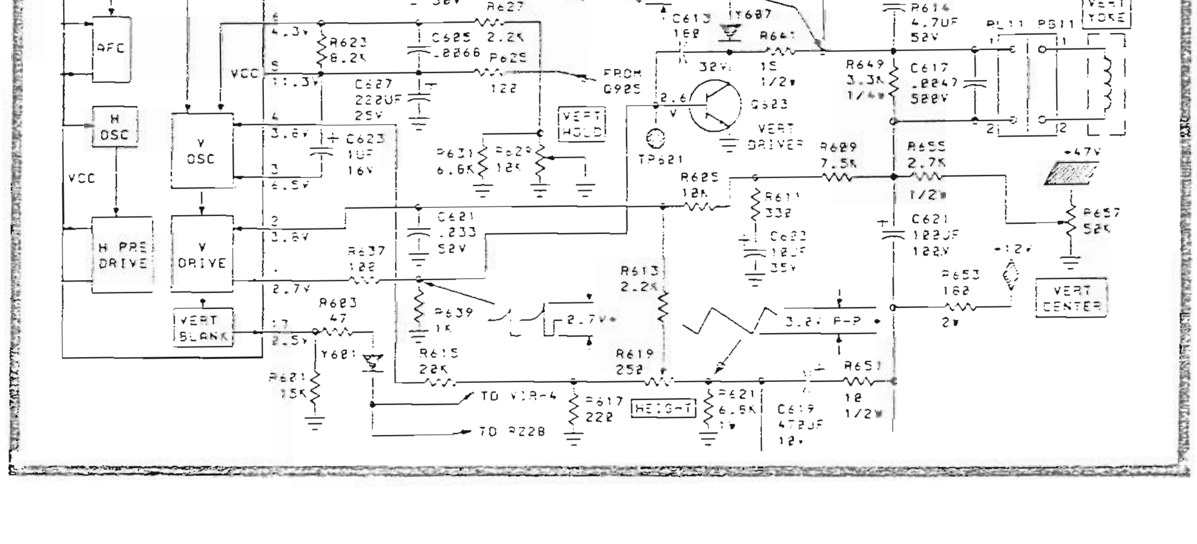
RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR COMPONENT LOCATION (SEE PC CHASSIS LAYOUT – THIS PAGE)

NO VERTICAL SWEEP / ABNORMAL VERTICAL SWEEP

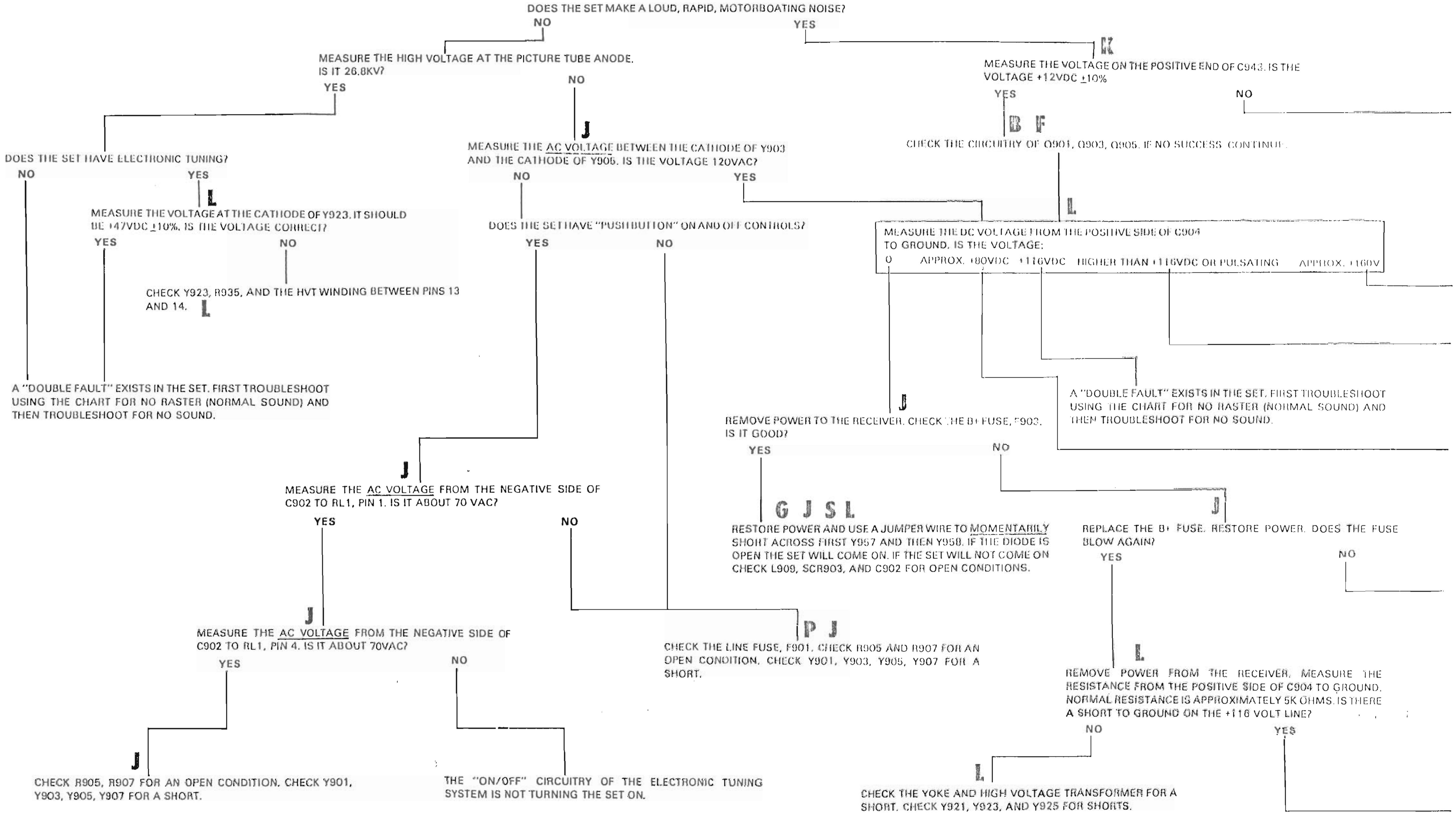
MEASURE THE VOLTAGE ON THE CATHODE OF Y923. IS THE VOLTAGE +47VDC ±10%? **L**

- NO → DOES THE SET HAVE ELECTRONIC TUNING?
  - YES → **L S** DISCONNECT POWER FROM THE RECEIVER. DISCONNECT PLUG RL10. RESTORE POWER AND MEASURE THE VOLTAGE AT THE CATHODE OF Y923 AGAIN. IS IT NOW +47 ±10%?
    - YES → THE PROBLEM IS A SHORT IN THE ELECTRONIC TUNING SYSTEM THAT IS LOADING DOWN THE +47VOLT SOURCE.
    - NO → **L** CHECK Y923, R925, AND THE HVT WINDING BETWEEN PINS 13 and 14.
  - NO → **L** CHECK Y923, R925, AND THE HVT WINDING BETWEEN PINS 13 and 14.
- YES → **C** MEASURE THE VOLTAGE ON PIN 5 OF IC501. IS THE VOLTAGE +11.3VDC ±10%?
  - NO → **G** CHECK R625 AND C607. → **C** IF NO SUCCESS REPLACE IC501.
  - YES → **C** USE AN OSCILLOSCOPE TO OBSERVE THE VERTICAL DRIVE SIGNAL (0.8VPP) ON PIN 1 OF IC501. IS IT THERE?
    - NO → REMOVE POWER FROM THE RECEIVER. DESOLDER THE BASE OF Q603 SO THAT IT IS NOT CONNECTED INTO THE CIRCUIT. RESTORE POWER AND OBSERVE THE VERTICAL DRIVE SIGNAL AGAIN. IS IT THERE NOW? **C**
      - NO → CHECK FOR SOLDER CONNECTIONS, COMPONENT LEAD DRESS, AND SOLDER SHORTS AROUND PINS 2, 3, 4, 5, and 6 OF IC501. → **C** IF NO SUCCESS REPLACE IC501.
      - YES → **C** CHECK Q603 FOR A SHORT. → THE PROBLEM IS IN THE VERTICAL OUTPUT CIRCUITRY (see below).
    - YES → REMOVE POWER FROM THE RECEIVER. CHECK THE CONTINUITY OF THE YOKE AT PLUG RL11. NORMAL RESISTANCE IS 75 OHM ±10%. IS THE YOKE GOOD?
      - YES → **C G** THE PROBLEM IS IN THE VERTICAL OUTPUT CIRCUITRY. WITH POWER STILL REMOVED CHECK Q601 AND Q603. ALSO CHECK Y607 AND Y609. IT WILL BE NECESSARY TO UNSOLDER ONE END OF Y607 AND Y609. THE FRONT TO BACK RESISTANCE SHOULD BE AT LEAST 10:1. CHECK C614, C615, C621.
      - NO → REPLACE THE YOKE.





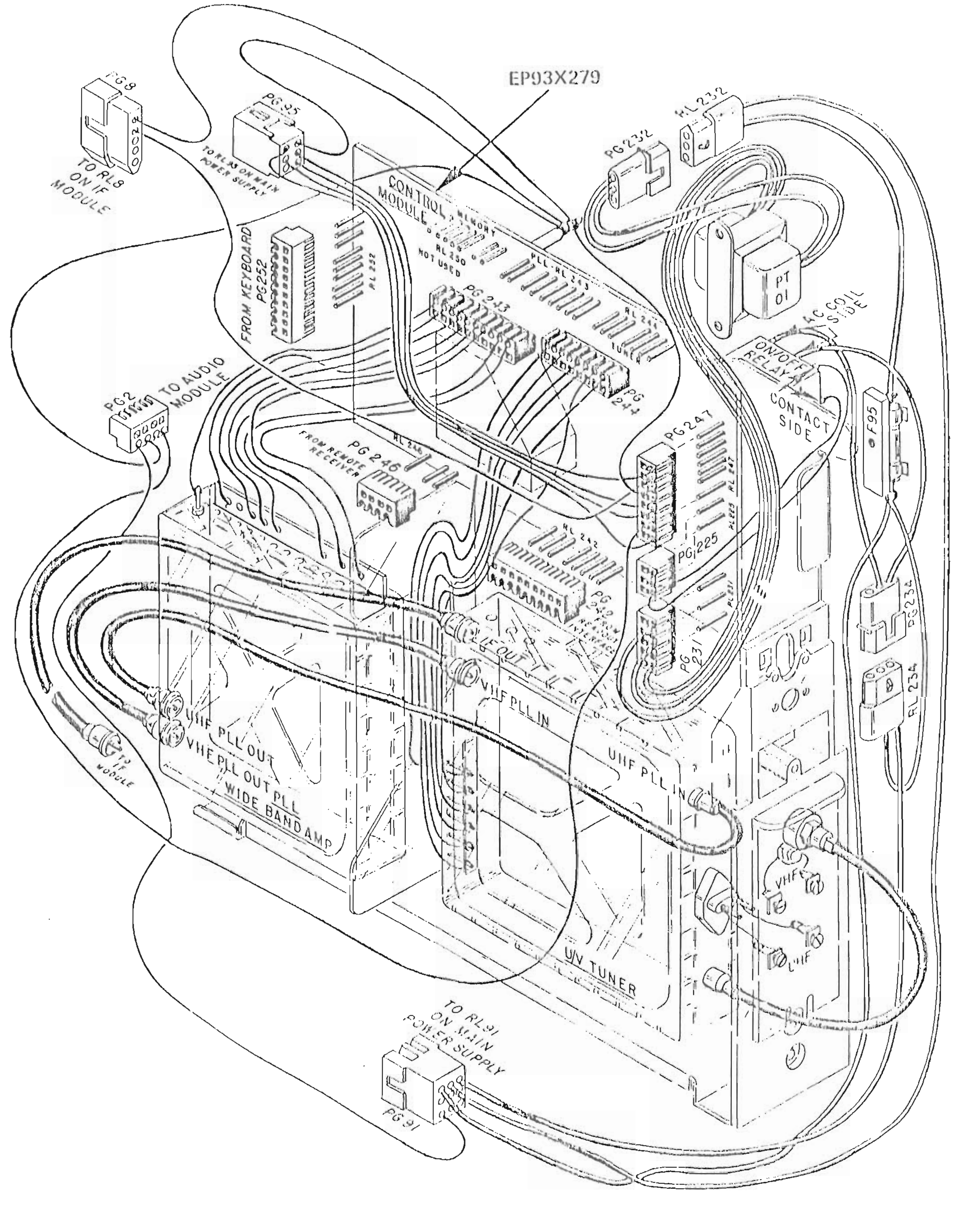
RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR COMPONENT LOCATION (SEE PC CHASSIS LAYOUT - THIS PAGE)



MODULE FUNCTIONS/TROUBLESHOOTING INFORMATION

MODULE	INFORMATION
REMOTE TRANSMITTER MOST LIKELY RESULT OF FAILURES IN REMOTE TRANSMITTER 1. LOSS OF REMOTE CONTROL FUNCTIONS 2. REDUCED TRANSMITTER RANGE	—PROVIDES INFRARED REMOTE CONTROL SIGNAL —POWERED BY 9 VOLT BATTERY —OUTPUT CAN BE DETECTED BY INFRARED DETECTOR CARD (29-0528-77), BY SUBSTITUTION OF A LIGHT EMITTING DIODE FOR ONE OF THE INFRARED EMITTERS. —COMPONENTS MOST LIKELY TO FAIL: BATTERY INFRARED EMITTING DIODES
REMOTE RECEIVER MODULE MOST LIKELY RESULT OF FAILURES IN REMOTE RECEIVER 1. LOSS OF REMOTE CONTROL FUNCTION	—DETECTS AND AMPLIFIES THE INFRARED SIGNAL FROM THE REMOTE TRANSMITTER —CHANGES IN THE OUTPUT VOLTAGE OF THE REMOTE RECEIVER MODULE CAN BE DETECTED WHEN IT IS ACTIVATED BY A KNOWN GOOD TRANSMITTER
TUNER CONTROL MODULE MOST LIKELY RESULT OF FAILURES IN TUNER CONTROL MODULE: 1. LOSS OF TUNING AND/OR BANDSWITCHING VOLTAGES TO TUNER 2. LOSS OF CHANNEL NUMBER DISPLAY 3. LOSS OF ON/OFF FUNCTION 4. LOSS OF REMOTE CONTROL	—PROVIDES STANDBY POWER (+9V) TO THE TUNING SYSTEM WHEN RECEIVER IS OFF —PROVIDES INTERCONNECTION BETWEEN MAIN CHASSIS AND UHF/VHF TUNER —RECEIVES LOGIC INPUTS FROM REMOTE RECEIVER AND SET KEYBOARD —PROVIDES DC VOLTAGES TO CONTROL TUNING AND BANDSWITCHING IN THE TUNER —PROVIDES A DC CURRENT TO CONTROL SET AUDIO —PROVIDES LOGIC FOR CHANNEL TUNING INFORMATION —PROVIDES LOGIC FOR CHANNEL NUMBER DISPLAY INFORMATION —PROVIDES CURRENT TO ACTIVATE ON/OFF RELAY —DC VOLTAGE CHECKS USING SCHEMATIC DIAGRAMS IS BEST APPROACH —MOST LIKELY COMPONENTS TO FAIL: T21, T22, T23, T24 (PRIMARILY AFFECTS REMOTE CONTROL) IC35 (PRIMARILY AFFECTS BANDSWITCHING, TUNER B+, CHANNEL DISPLAY)
ON/OFF RELAY MOST LIKELY RESULT OF FAILURES IN ON/OFF RELAY: 1. SET WON'T TURN OFF 2. SET WON'T TURN ON	—PROVIDES POWER SWITCHING TO TURN THE SET ON AND OFF —CONTROLLED BY DC CURRENT FROM TUNER CONTROL MODULE —ON/OFF SWITCH IS RELAY —MOST LIKELY COMPONENTS TO FAIL: RELAY, Q90 —NOTE: ALSO CHECK FUSE, F95
UHF/VHF TUNER	—CHANNEL TUNING, BANDSWITCHING, CONTROLLED BY DC VOLTAGES FROM TUNER CONTROL MODULE —PROVIDES IF OUTPUT TO MAIN CHASSIS —PROVIDES FREQUENCY SAMPLE TO PLL MODULE
PLL MODULE MOST LIKELY RESULT OF FAILURES IN PLL MODULE 1. LOSS OF TUNING VOLTAGE 2. LOSS OF BANDSWITCHING	—RECEIVES FREQUENCY SAMPLE FROM TUNER —AMPLIFIES AND DIVIDES FREQUENCY SAMPLE —PROVIDES DC VOLTAGES TO CONTROL TUNING AND BANDSWITCHING INFORMATION
READOUT INTERFACE MODULE MOST LIKELY RESULT OF FAILURES IN READOUT INTERFACE MODULE: 1. NO CHANNEL NUMBER DISPLAY OR INCORRECT CHANNEL NUMBER DISPLAY	—BCD OUTPUT FROM TUNER CONTROL MODULE TO SEVEN SEGMENT DISPLAY —MOST LIKELY COMPONENTS TO FAIL: IC10 (PRIMARILY AFFECTS UNITS DISPLAY) IC20 (PRIMARILY AFFECTS TENS DISPLAY)

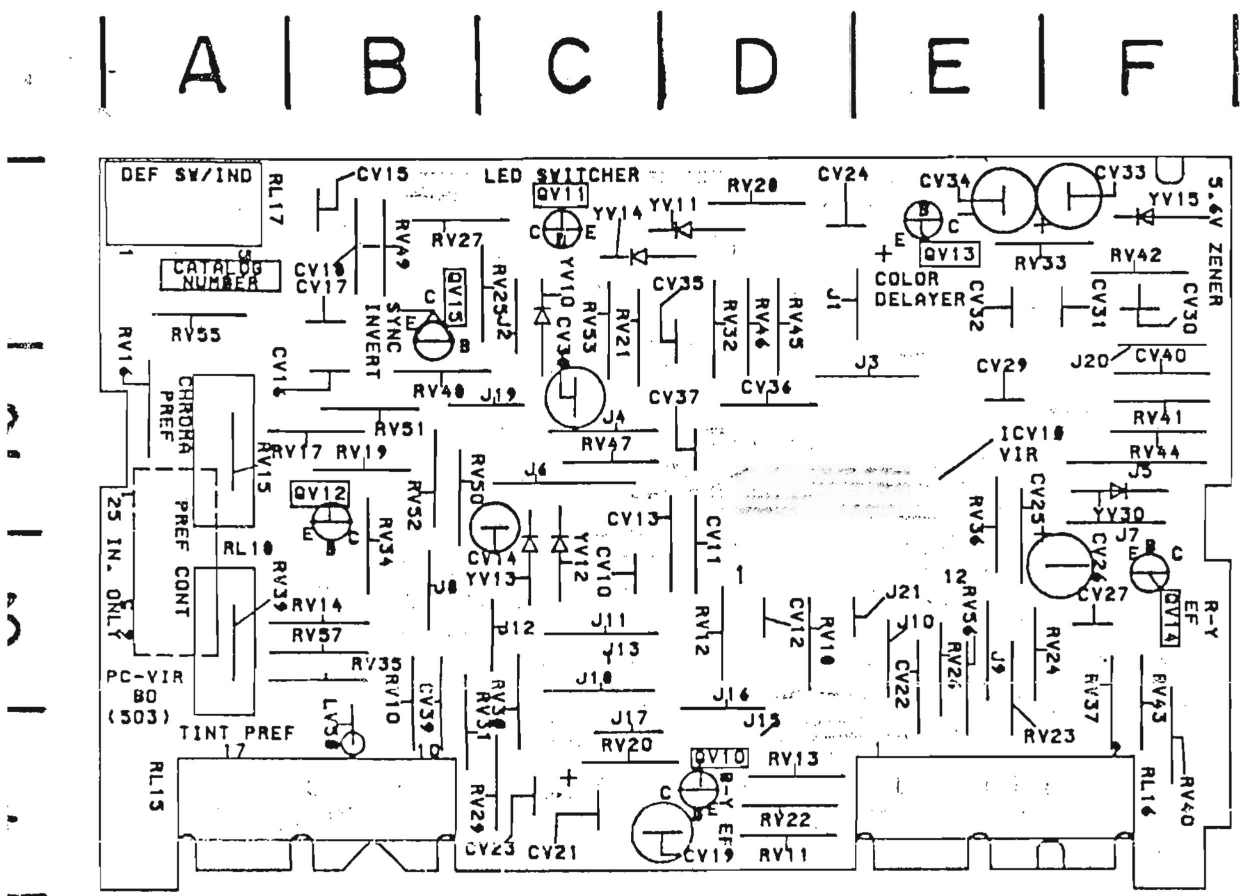
LMP-91 ELECTRONIC TUNING ASSEMBLY DRAWING



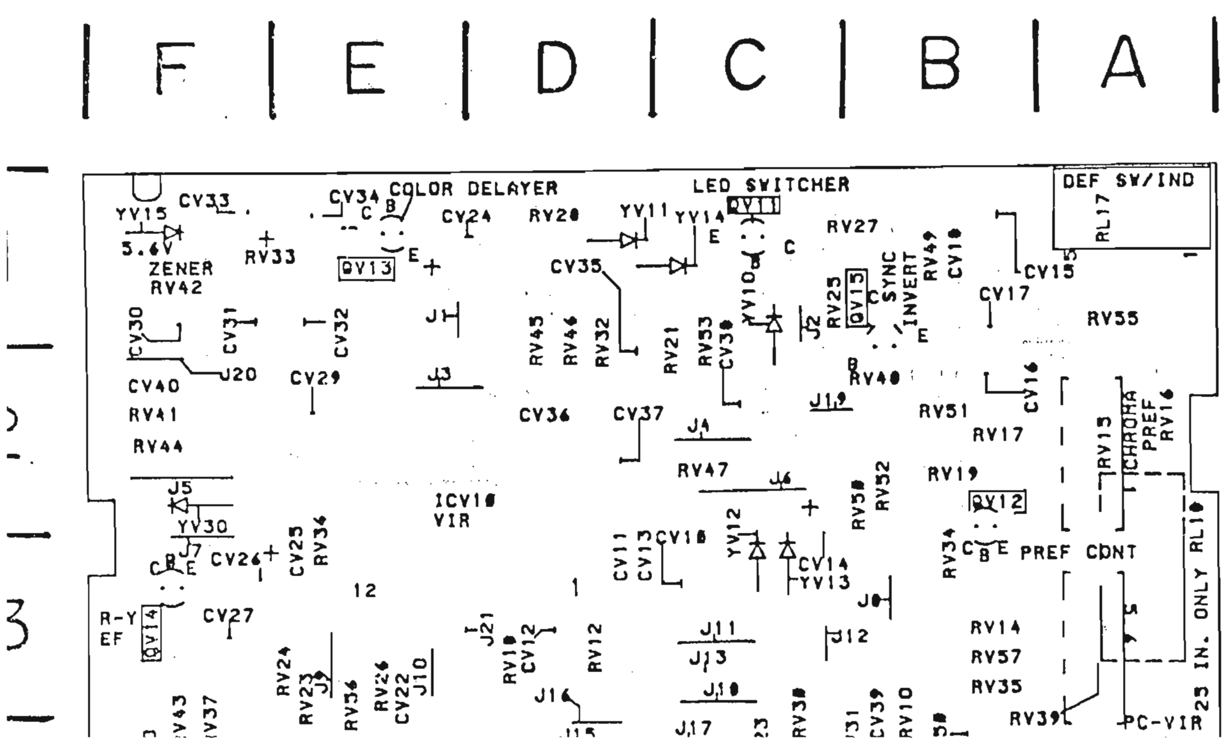
LMP-91 ELECTRONIC TUNING ASSEMBLY DRAWING

GENERAL ELECTRIC

VIR BOARD (EP93X381) COMPONENT LOCATION



COMPONENT SIDE



CAPACITORS
CV10—B1
CV11—D3
CV12—D3
CV13—D2
CV14—C3
CV15—B1
CV16—A2
CV17—B1
CV19—D4
CV21—C4
CV22—E3
CV23—C4
CV24—D1
CV25—E2
CV26—F3
CV27—F3
CV29—E2
CV38—C2
CV30—F1
CV31—F1
CV32—E1
CV33—F1
CV34—E1
CV35—D1
CV36—D2
CV37—D2
CV39—B3
CV40—F2

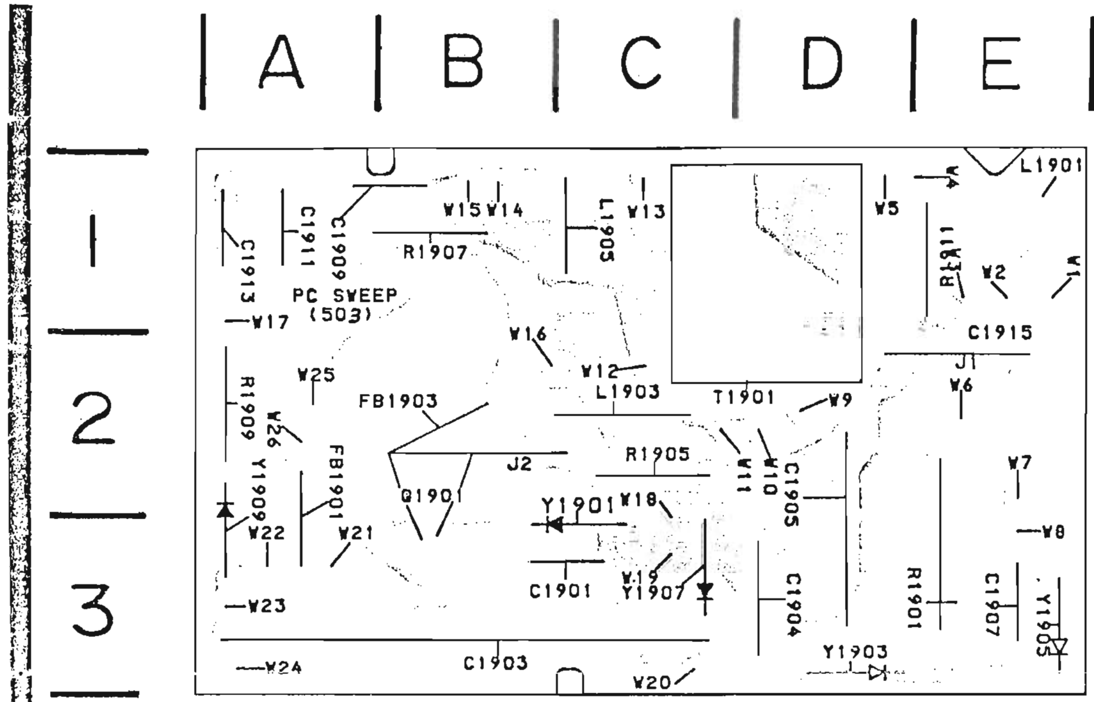
RESISTORS	
RV10—B3	RV52—B2
RV11—D4	RV53—C1
RV12—D3	RV55—A1
RV13—D4	RV56—E3
RV14—B3	RV57—B3
RV15—A2	
RV16—A2	
RV17—B2	
RV19—B2	
RV28—D1	
RV20—C4	
RV22—D4	
RV23—E4	
RV24—F3	
RV25—C1	
RV26—E3	
RV27—B1	
RV29—C4	
RV30—C3	
RV31—B3	
RV32—D1	
RV33—E1	
RV34—B3	
RV35—B3	
RV36—E2	
RV37—F3	
RV39—A3	
RV40—F4	
RV48—B2	
RV41—F2	
RV42—F1	
RV43—F3	

DIODES
YV10—C1
YV11—D1
YV12—C3
YV13—C3
YV14—C1
YV15—F1
YV30—F2

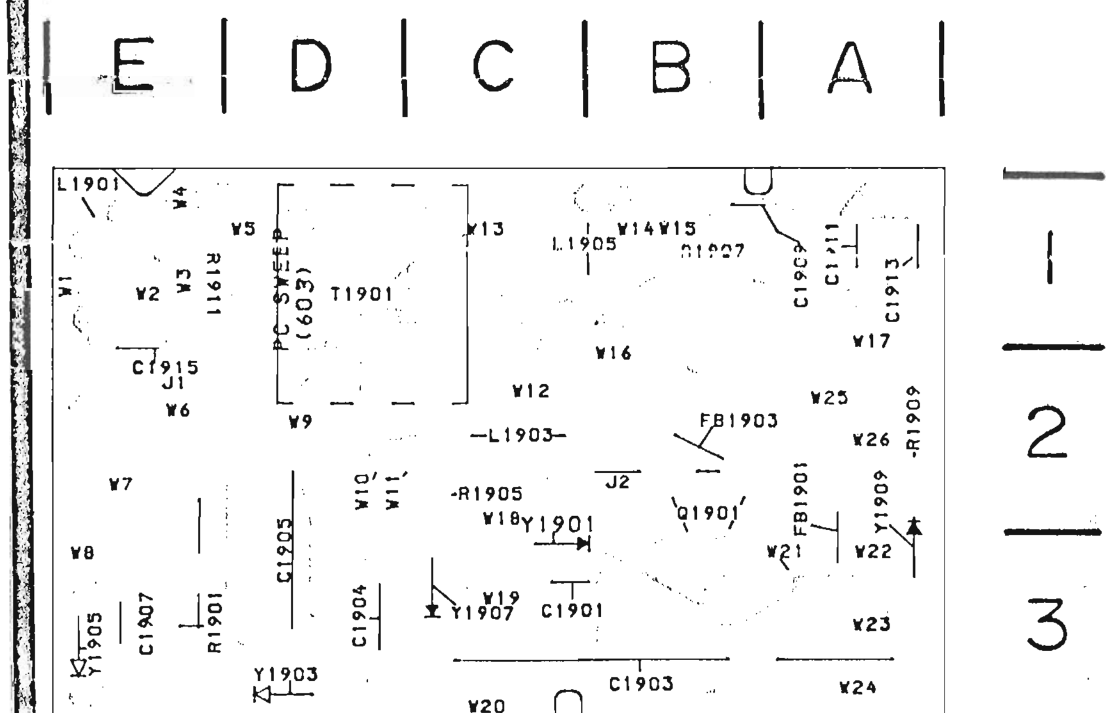
RECEPTACLES
RL10—A3
RL15—A4
RL16—F4
RL17—A1

TRANSISTORS
QV10—D4
QV11—C1
QV12—B2
QV13—E1
QV14—F3
QV15—B1

HORIZ. HEAT SINK BOARD (EP93X348) COMPONENT LOCATION



COMPONENT SIDE



COPPER SIDE

CAPACITORS	RESISTORS	FUSE	DIODES
C1901—C3	R1901—E3	FB1901—A2	Y1901—C3
C1903—B3	R1905—C2	FB1903—B2	Y1903—D3
C1904—D3	R1907—B1		Y1905—E3

TRANSISTORS
Q400—B4
Q404—D3
Q406—D3
Q408—D2

CAPACITORS
C403—D3
C404—A4
C406—A4
C410—B4
C416—C3

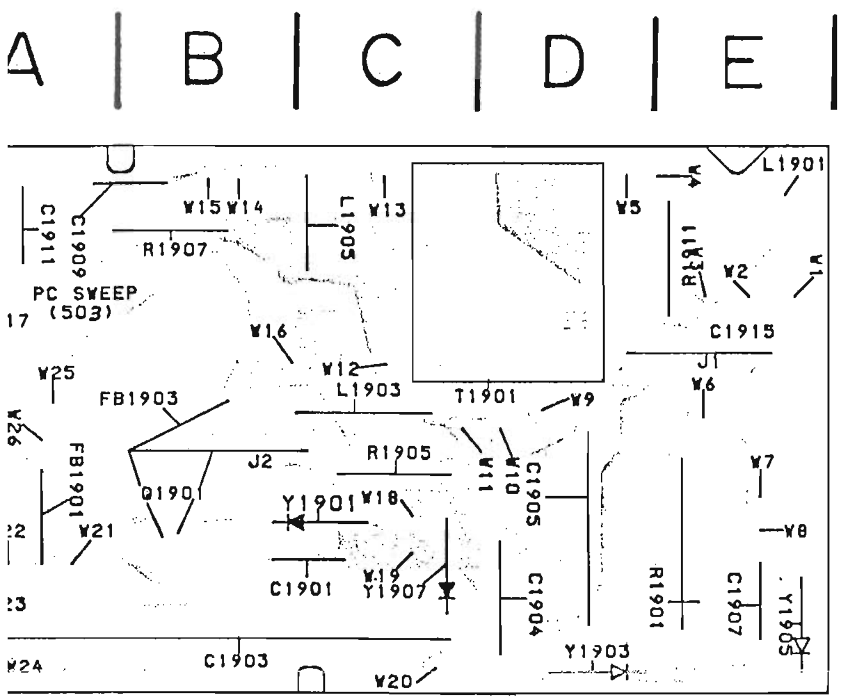
RESISTORS
R402—C4
R403—A1
R404—A3
R405—C4
R406—A3
R407—C3
R411—A1
R413—A3
R414—D2
R415—B1
R416—D3
R417—C3
R418—D2
R419—B3
R424—A4
R426—A4
R428—B4
R430—B2
R434—A4
R436—A4
R438—B3
R404—A3
R444—A4
R446—A4
R448—B4
R454—D3
R456—D4
R458—D3
R464—C4
R466—C4
R468—D4
R474—C4
R476—C4
R478—D4
R484—A2
R488—A1

COILS
L403—B1

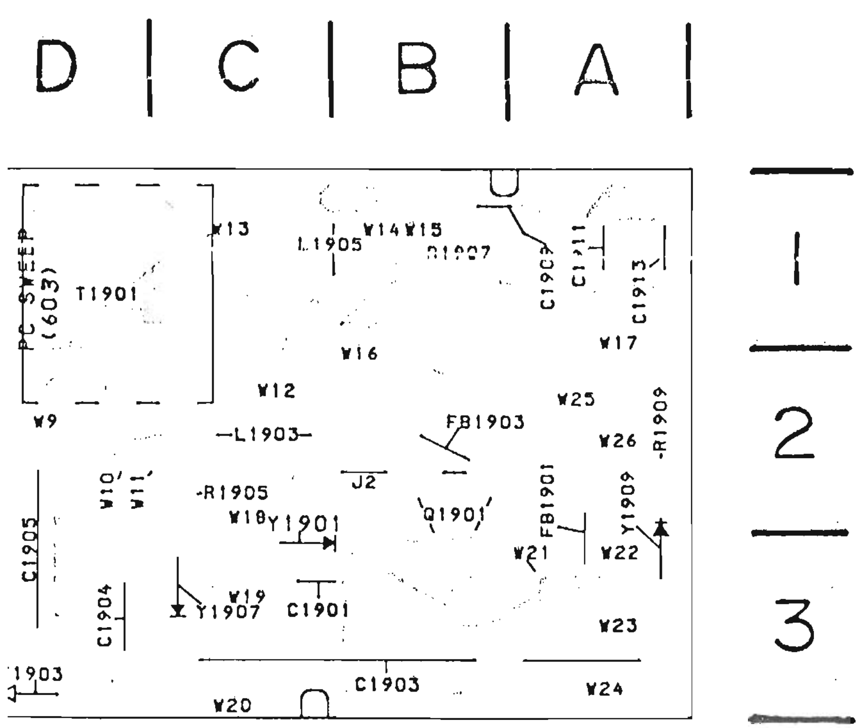
TEST POINTS
TP1—2

DIODE
Y402—C4

ORIZ. HEAT SINK BOARD (EP93X348) COMPONENT LOCATION



COMPONENT SIDE



COPPER SIDE

CAPACITORS	RESISTORS	FUSE	DIODES
C1901—C3	R1901—E3	FB1901—A2	Y1901—C3
C1903—B3	R1905—C2	FB1903—B2	Y1903—D3
C1904—D3	R1907—B1		Y1905—E3

RGB BOARD (EP93X377) COMPONENT LOCATION

TRANSISTORS
Q400—B4
Q404—D3
Q406—D3
Q408—D2

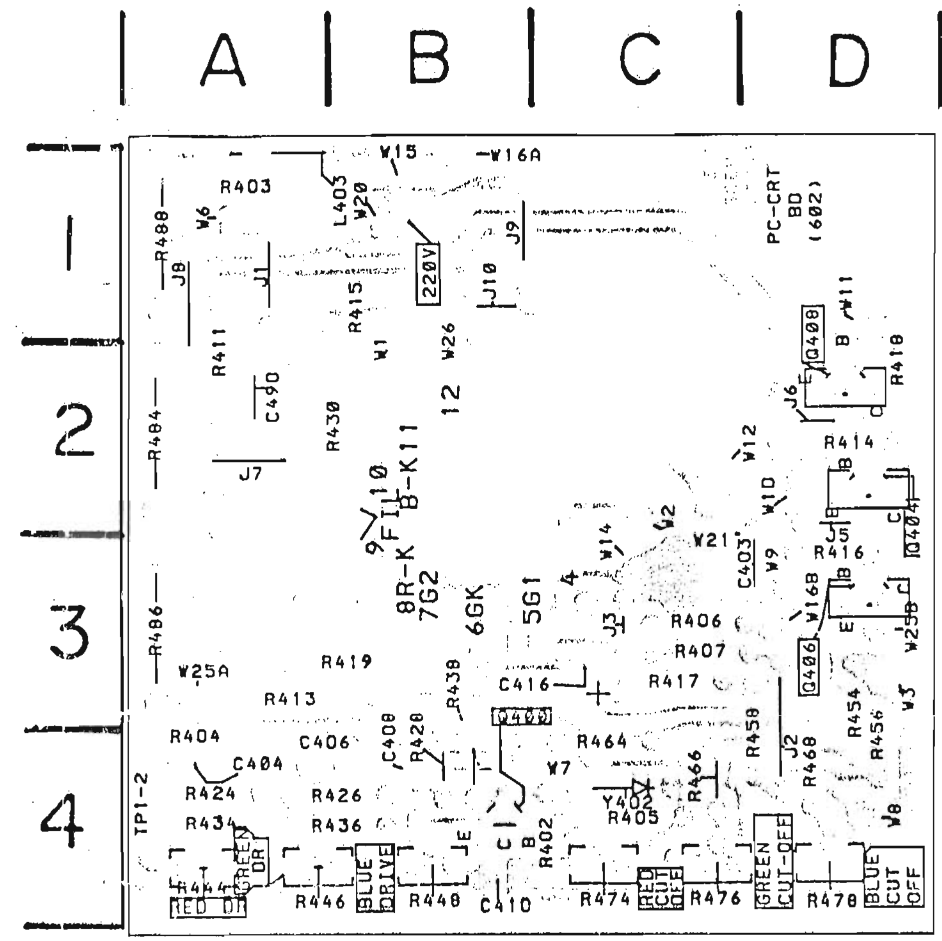
CAPACITORS
C403—D3
C404—A4
C406—A4
C410—B4
C416—C3

RESISTORS
R402—C4
R403—A1
R404—A3
R405—C4
R406—A3
R407—C3
R411—A1
R413—A3
R414—D2
R415—B1
R416—D3
R417—C3
R418—D2
R419—B3
R424—A4
R426—A4
R428—B4
R430—B2
R434—A4
R436—A4
R438—B3
R404—A3
R444—A4
R446—A4
R448—B4
R454—D3
R456—D4
R458—D3
R464—C4
R466—C4
R468—D4
R474—C4
R476—C4
R478—D4
R484—A2
R488—A1

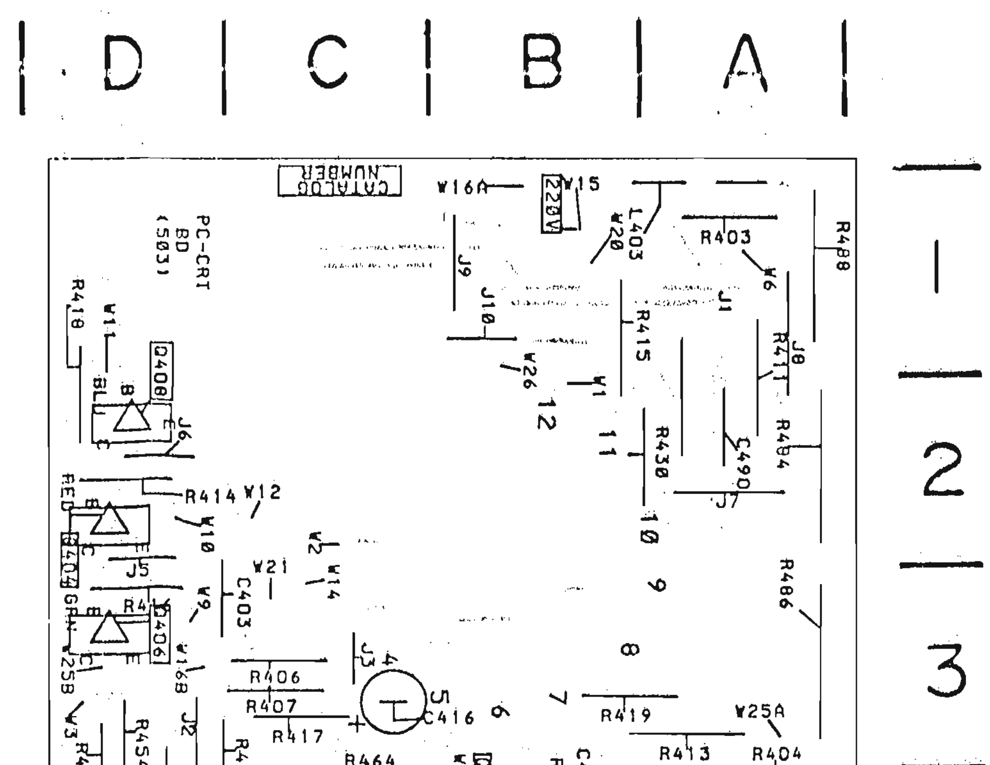
COILS
L403—B1

TEST POINTS
TP1—2

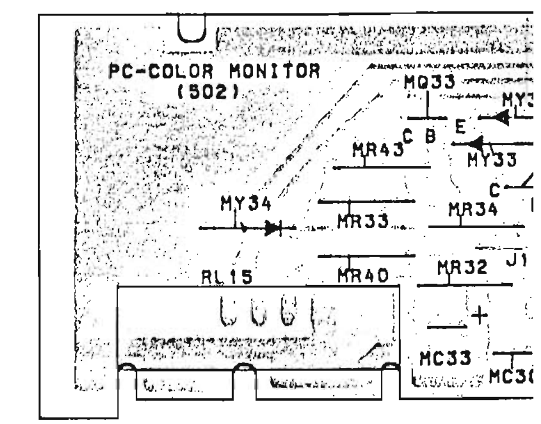
DIODE
Y402—C4

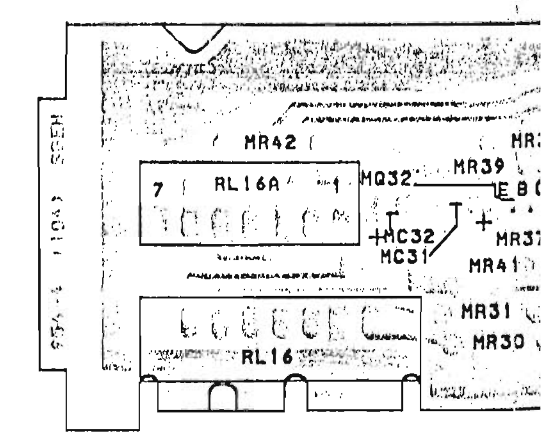


COMPONENT SIDE

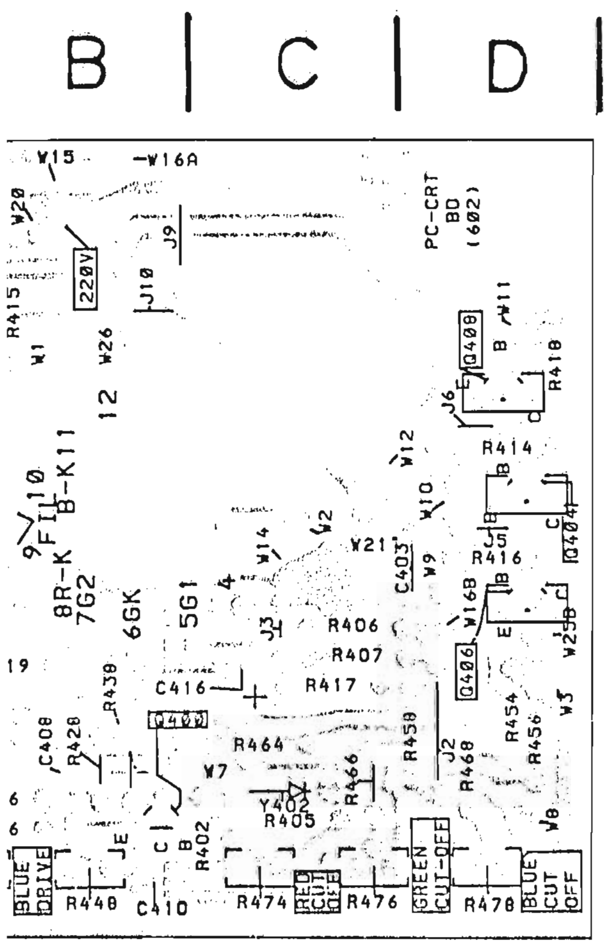


COLOR AVERAGING BOAR

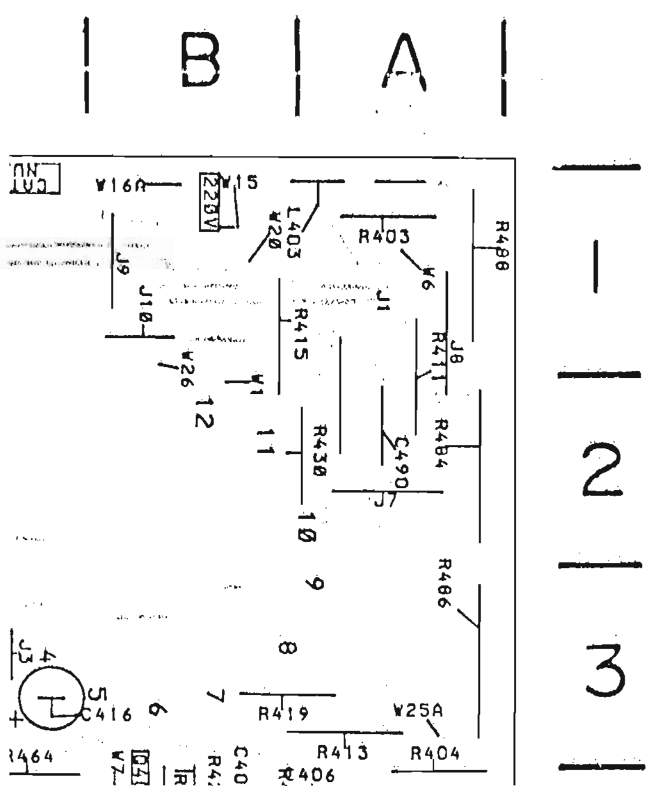




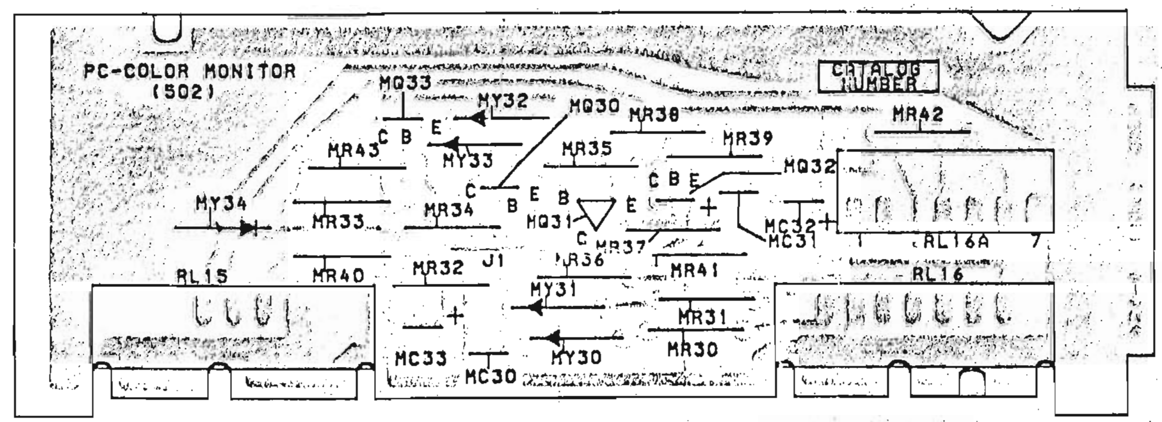
(EP93X377) COMPONENT LOCATION



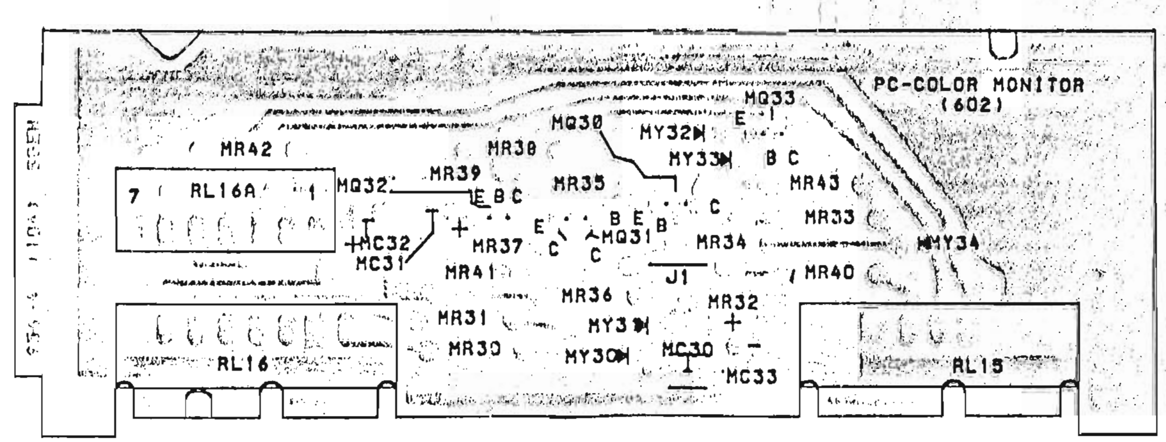
COMPONENT SIDE



COLOR AVERAGING BOARD (EP93X382) COMPONENT LOCATION

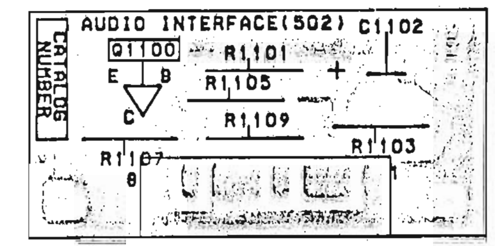


COMPONENT SIDE

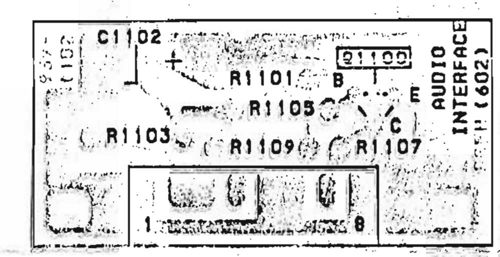


COPPER SIDE

AUDIO INTERFACE BOARD (EP93X383) COMPONENT LOCATION

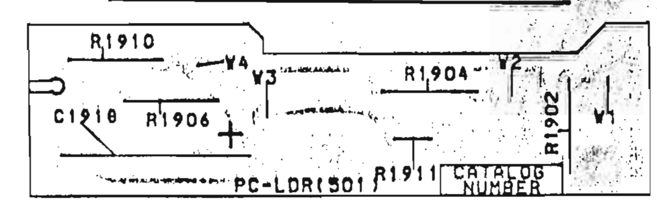


COMPONENT SIDE

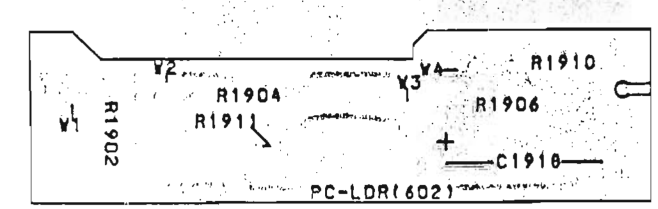


COPPER SIDE

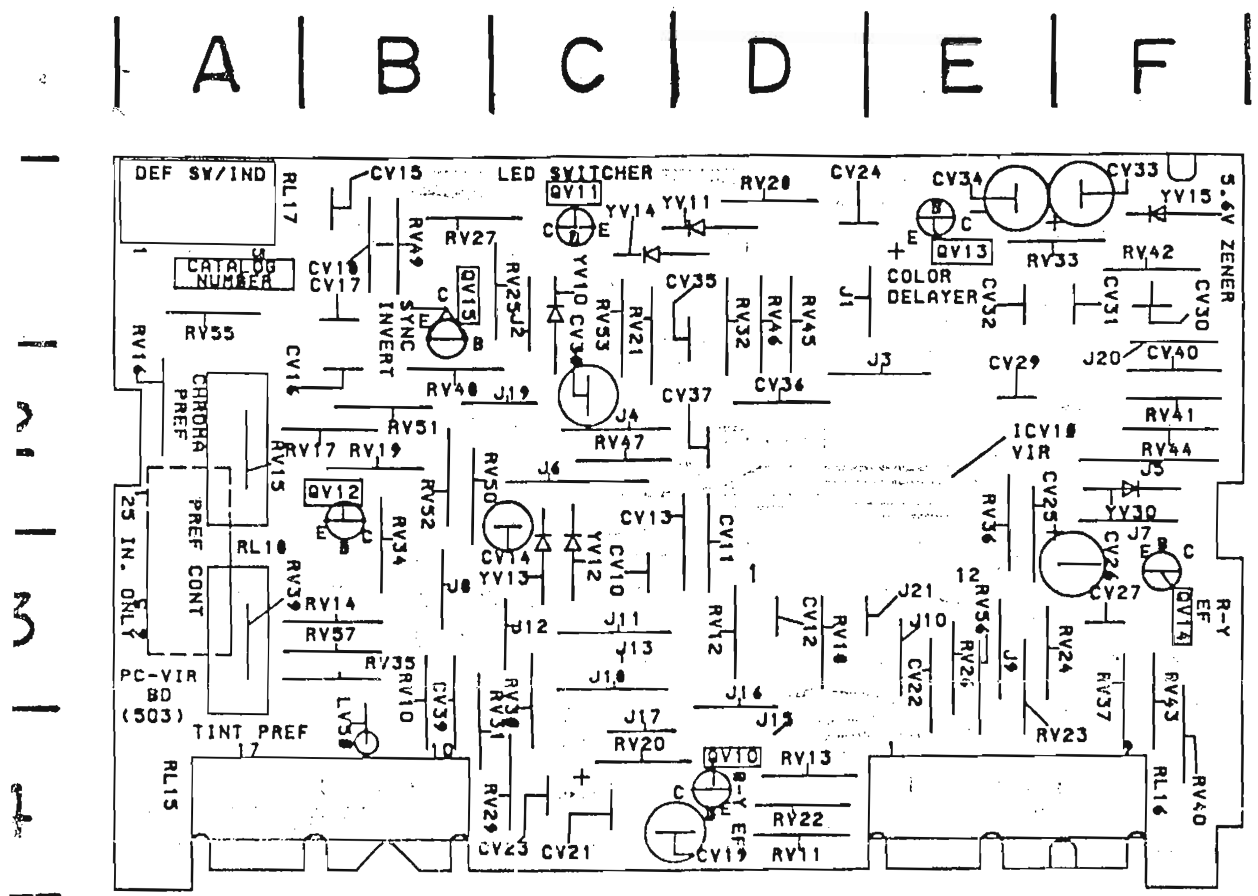
LDR BOARD (EP41X120) COMPONENT



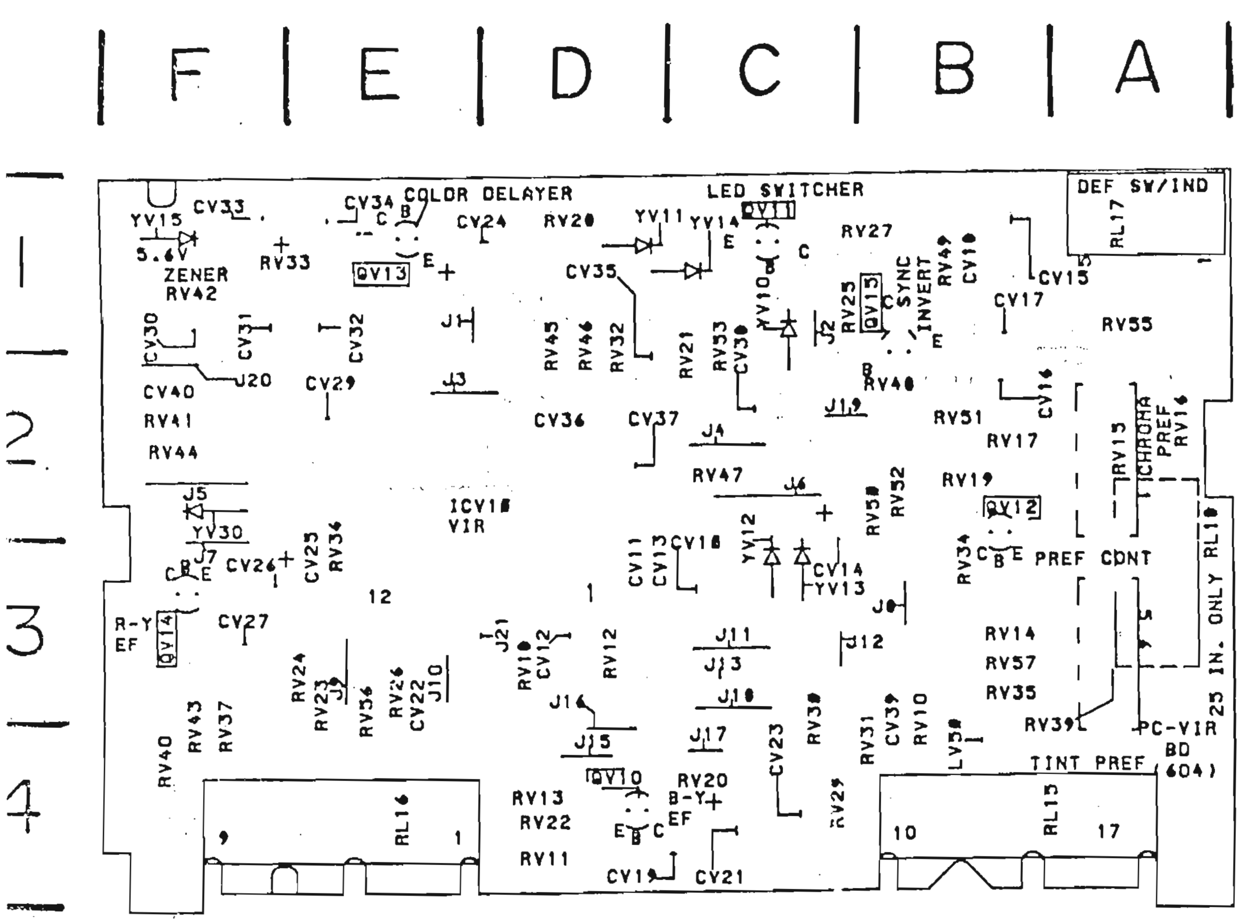
COMPONENT SIDE



COPPER SIDE



COMPONENT SIDE



COPPER SIDE

CAPACITORS

CV10—B1
CV11—D3
CV12—D3
CV13—D2
CV14—C3
CV15—B1
CV16—A2
CV17—B1
CV19—D4
CV21—C4
CV22—E3
CV23—C4
CV24—D1
CV25—E2
CV26—F3
CV27—F3
CV29—E2
CV38—C2
CV30—F1
CV31—F1
CV32—E1
CV33—F1
CV34—E1
CV35—D1
CV36—D2
CV37—D2
CV39—B3
CV40—F2

RESISTORS

RV10—B3	RV52—B2
RV11—D4	RV53—C1
RV12—D3	RV55—A1
RV13—D4	RV56—E3
RV14—B3	RV57—B3
RV15—A2	
RV16—A2	
RV17—B2	
RV19—B2	
RV28—D1	
RV20—C4	
RV22—D4	
RV23—E4	
RV24—F3	
RV25—C1	
RV26—E3	
RV27—B1	
RV29—C4	
RV30—C3	
RV31—B3	
RV32—D1	
RV33—E1	
RV34—B3	
RV35—B3	
RV36—E2	
RV37—F3	
RV39—A3	
RV40—F4	
RV48—B2	
RV41—F2	
RV42—F1	
RV43—F3	
RV44—F2	
RV45—D1	
RV46—D1	
RV47—C2	
RV49—B1	
RV50—B2	
RV51—B2	

DIODES

YV10—C1
YV11—D1
YV12—C3
YV13—C3
YV14—C1
YV15—F1
YV30—F2

RECEPTACLES

RL10—A3
RL15—A4
RL16—F4
RL17—A1

TRANSISTORS

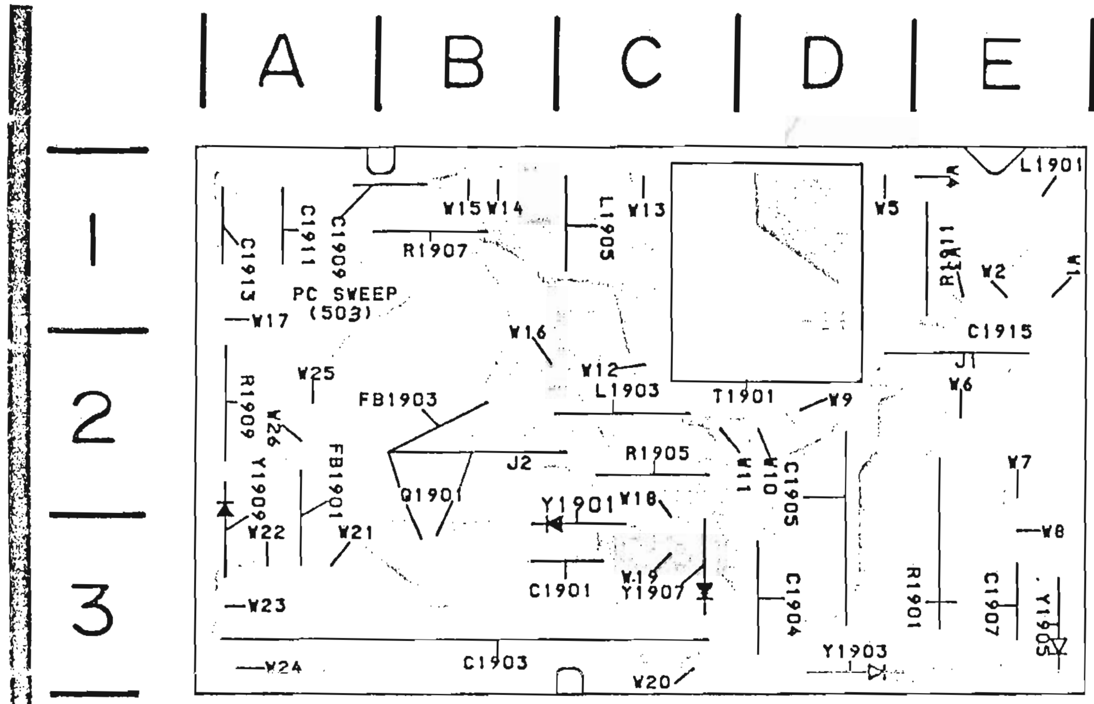
QV10—D4
QV11—C1
QV12—B2
QV13—E1
QV14—F3
QV15—B1

INTEGRATED CIRCUITS

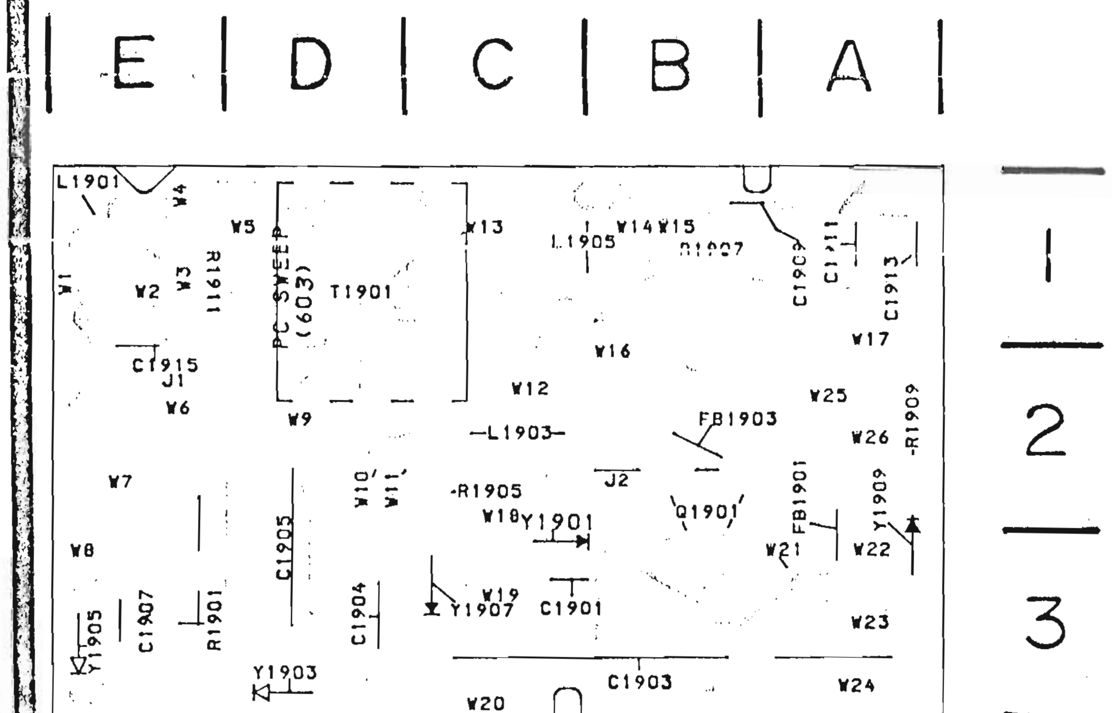
ICV10—E2

COILS

LV38—B4



COMPONENT SIDE



COPPER SIDE

CAPACITORS

C1901—C3
C1903—B3
C1904—D3
C1905—D2
C1907—E3
C1909—A1
C1911—A1
C1913—A1
C1915—E2

RESISTORS

R1901—E3
R1905—C2
R1907—B1
R1909—A2
R1911—E1

COILS

L1901—E1
L1903—C2
L1905—C1

FUSE

FB1901—A2
FB1903—B2

TRANSISTOR

Q1901—B2

DIODES

Y1901—C3
Y1903—D3
Y1905—E3
Y1907—C3
Y1909—A2

TRANSFORMER

T1901—D2

TRANSISTORS

Q400—B4
Q404—D3
Q406—D3
Q408—D2

CAPACITORS

C403—D3
C404—A4
C406—A4
C410—B4
C416—C3

RESISTORS

R402—C4
R403—A1
R404—A3
R405—C4
R406—A3
R407—C3
R411—A1
R413—A3
R414—D2
R415—B1
R416—D3
R417—C3
R418—D2
R419—B3
R424—A4
R426—A4
R428—B4
R430—B2
R434—A4
R436—A4
R438—B3
R404—A3
R444—A4
R446—A4
R448—B4
R454—D3
R456—D4
R458—D3
R464—C4
R466—C4
R468—D4
R474—C4
R476—C4
R478—D4
R484—A2
R488—A1

COILS

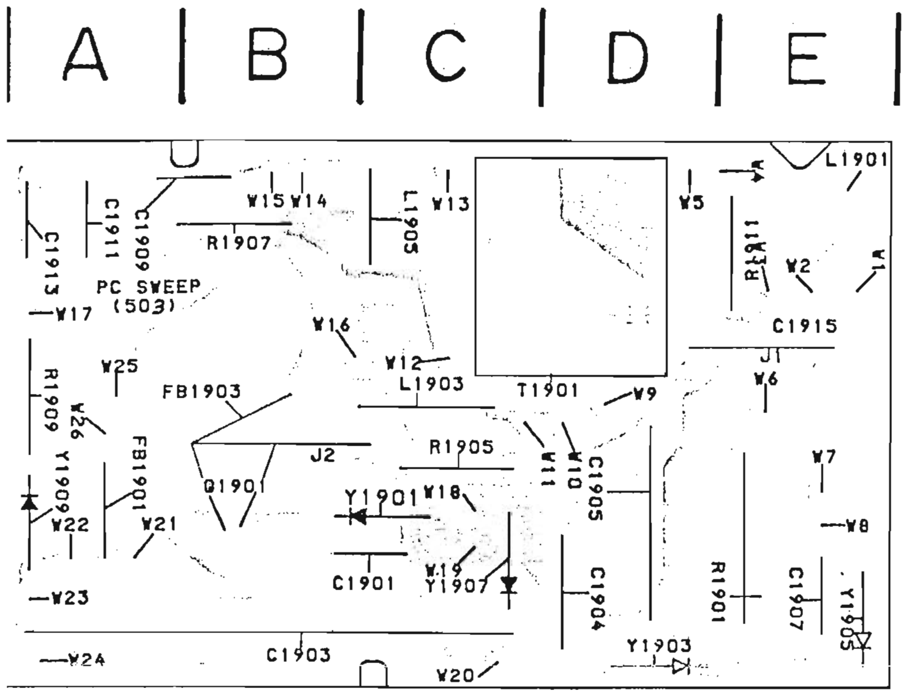
L403—B1

TEST POINT

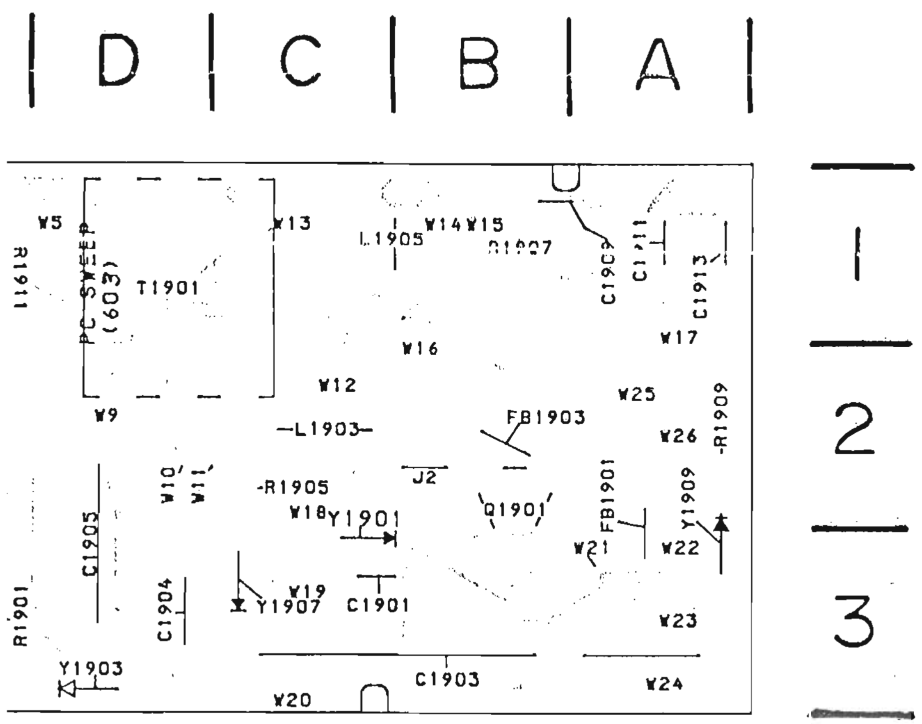
TP1—2

DIODE

Y402—C4



COMPONENT SIDE



COPPER SIDE

CAPACITORS	RESISTORS	FUSE	DIODES
C1901—C3	R1901—E3	FB1901—A2	Y1901—C3
C1903—B3	R1905—C2	FB1903—B2	Y1903—D3
C1904—D3	R1907—B1	**TRANSISTOR**	Y1905—E3
C1905—D2	R1909—A2	Q1901—B2	Y1907—C3
C1907—E3	R1911—E1		Y1909—A2
C1909—A1	**COILS**		**TRANSFORMER**
C1911—A1	L1901—E1		T1901—D2
C1913—A1	L1903—C2		
C1915—E2	L1905—C1		

TRANSISTORS

Q400—B4
Q404—D3
Q406—D3
Q408—D2

CAPACITORS

C403—D3
C404—A4
C406—A4
C410—B4
C416—C3

RESISTORS

R402—C4
R403—A1
R404—A3
R405—C4
R406—A3
R407—C3
R411—A1
R413—A3
R414—D2
R415—B1
R416—D3
R417—C3
R418—D2
R419—B3
R424—A4
R426—A4
R428—B4
R430—B2
R434—A4
R436—A4
R438—B3
R404—A3
R444—A4
R446—A4
R448—B4
R454—D3
R456—D4
R458—D3
R464—C4
R466—C4
R468—D4
R474—C4
R476—C4
R478—D4
R484—A2
R488—A1

COILS

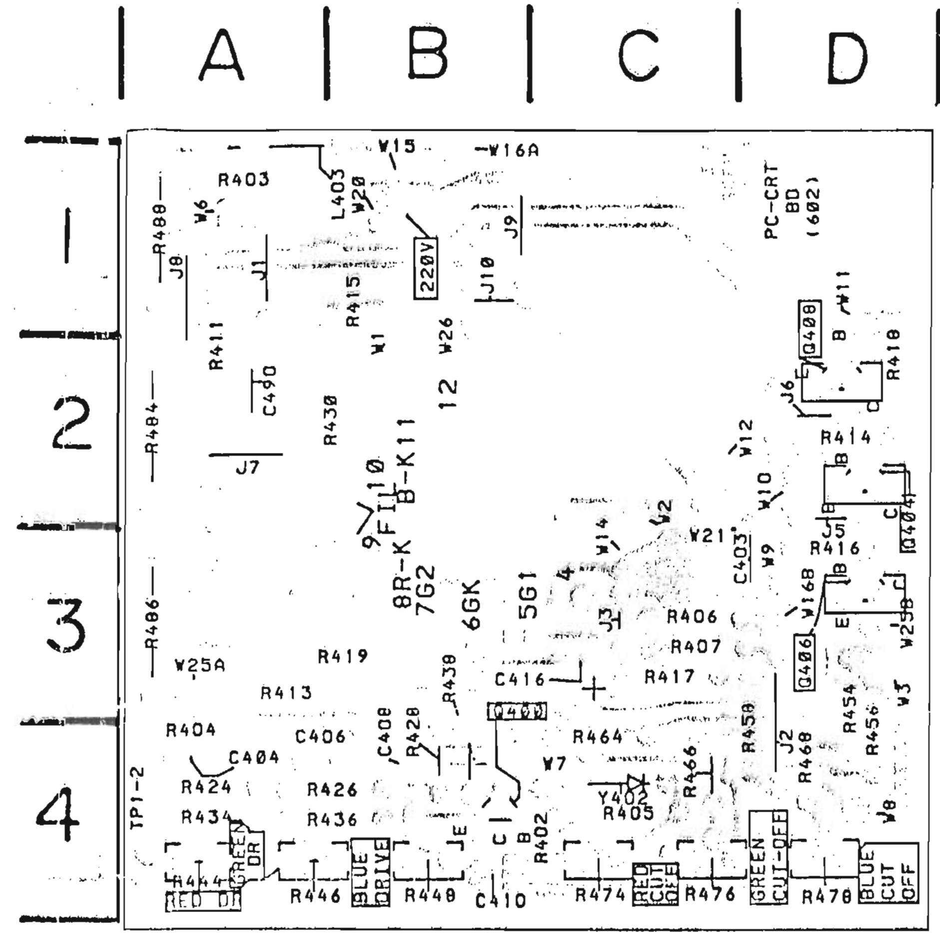
L403—B1

TEST POINTS

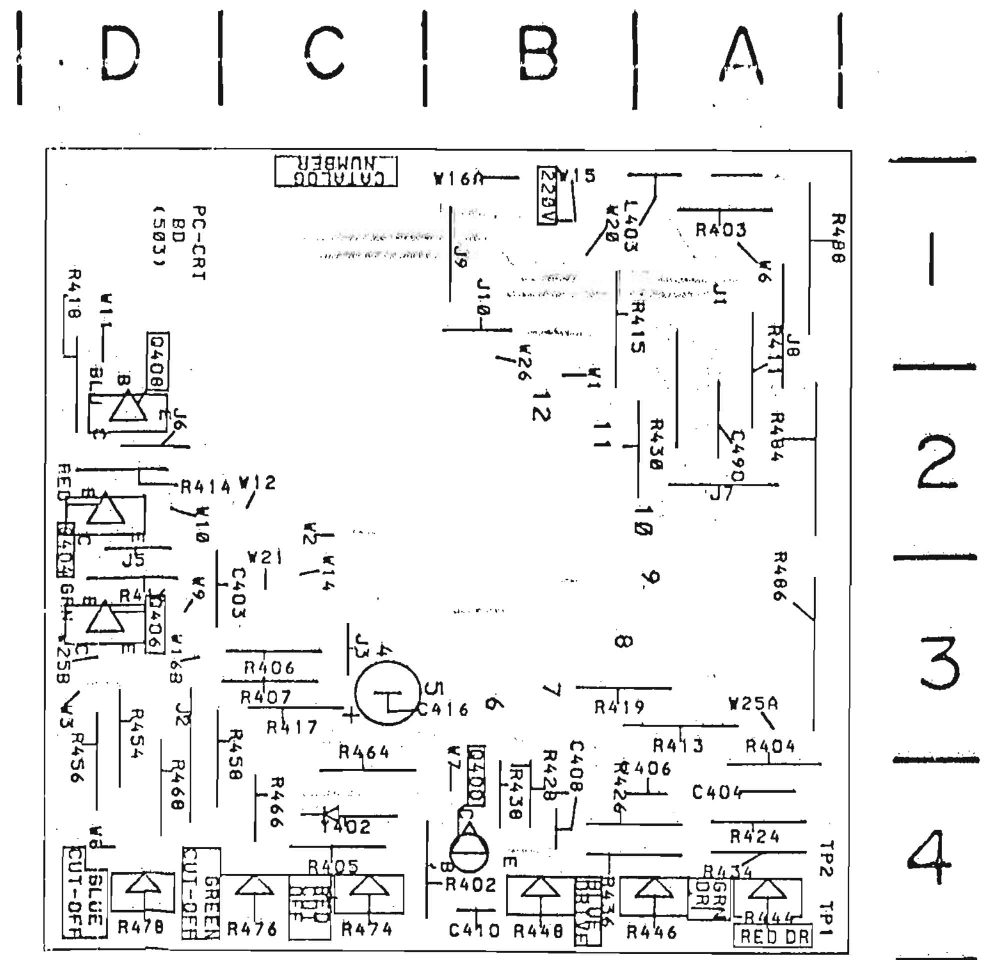
TP1—2

DIODE

Y402—C4

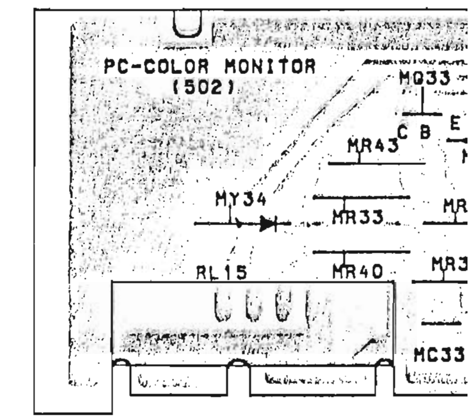


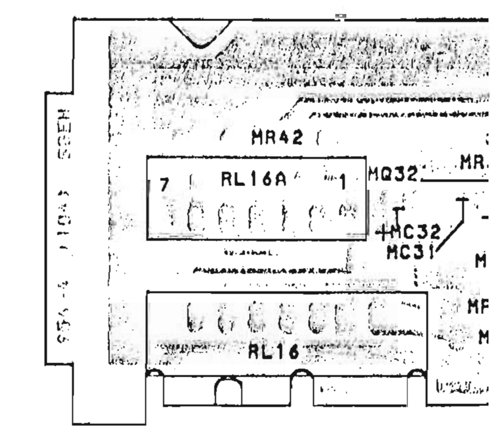
COMPONENT SIDE

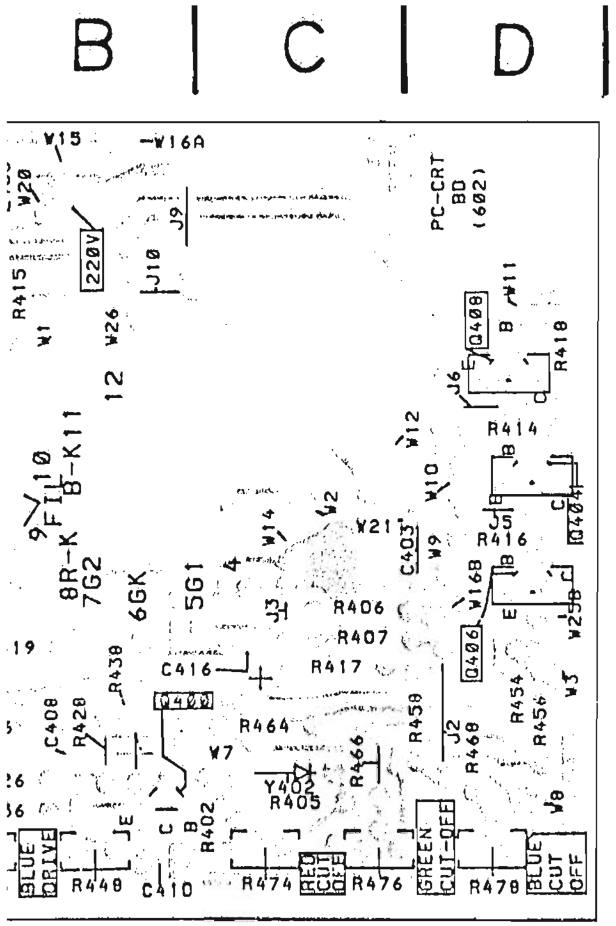


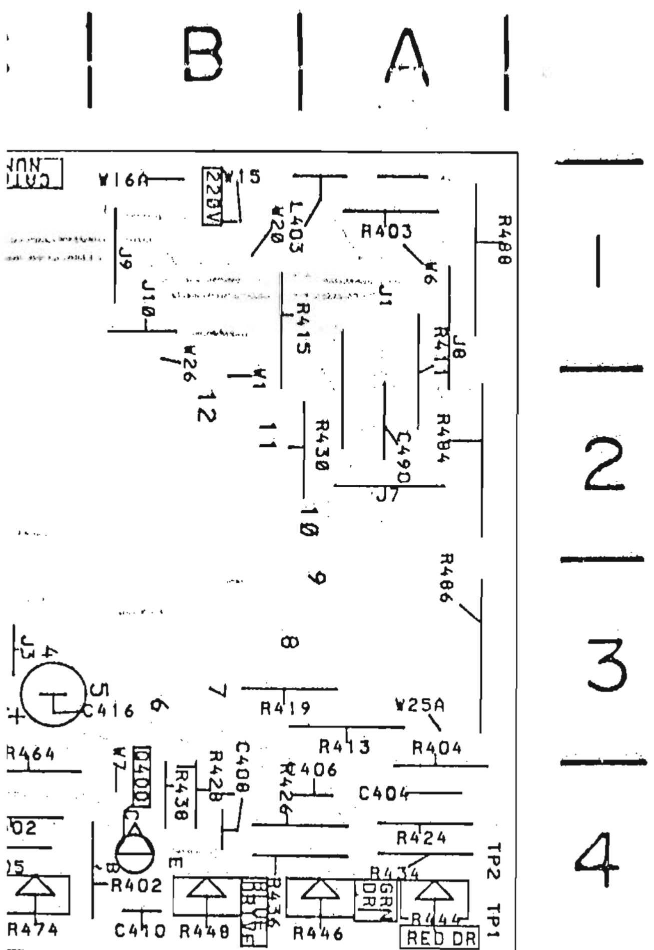
COPPER SIDE

COLOR AVERAGING



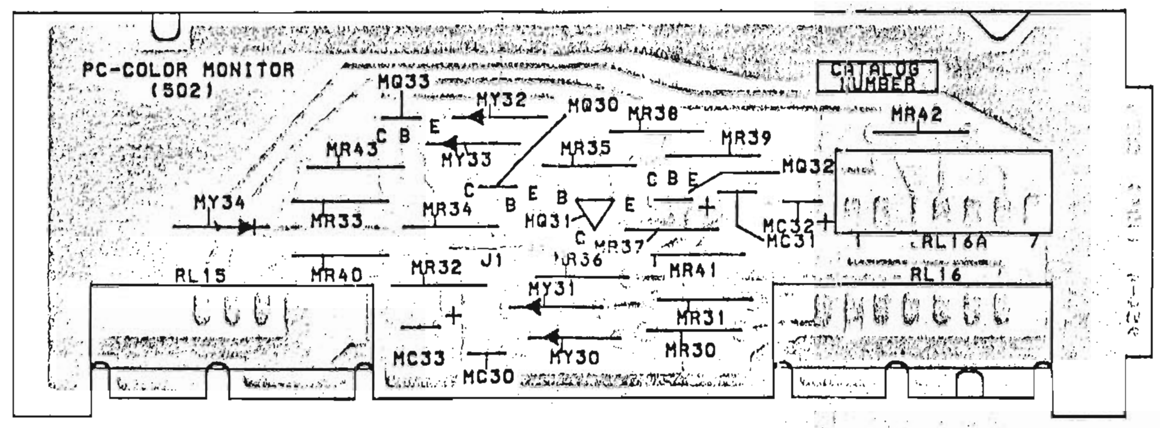




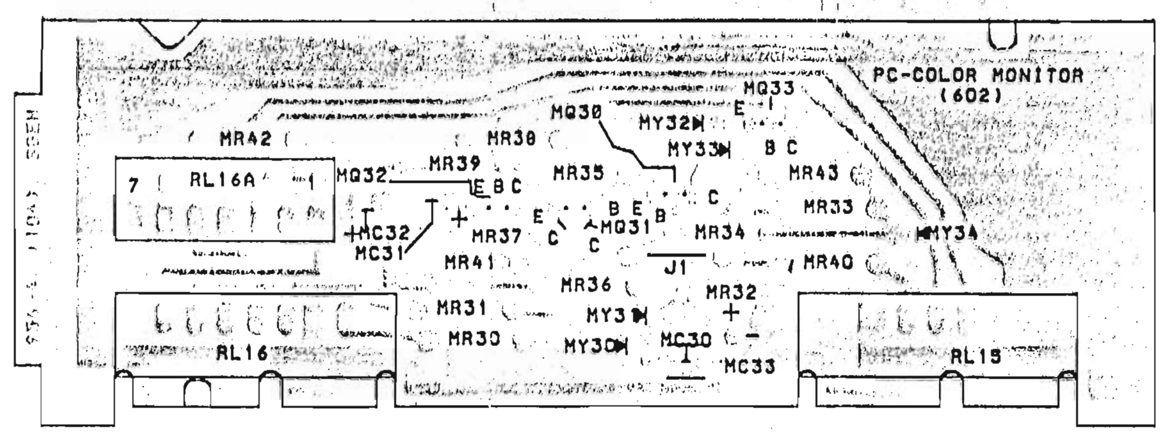


COPPER SIDE

COLOR AVERAGING BOARD (EP93X382) COMPONENT LOCATION

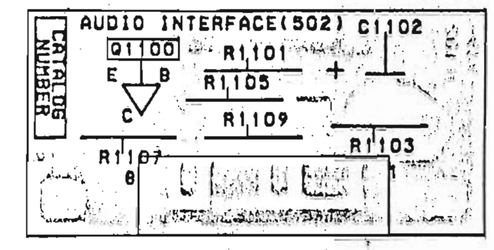


COMPONENT SIDE

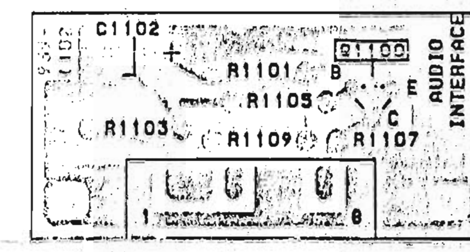


COPPER SIDE

AUDIO INTERFACE BOARD (EP93X383) COMPONENT LOCATION

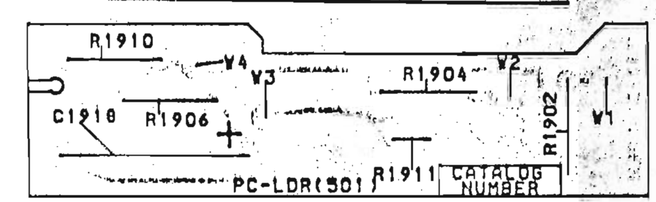


COMPONENT SIDE

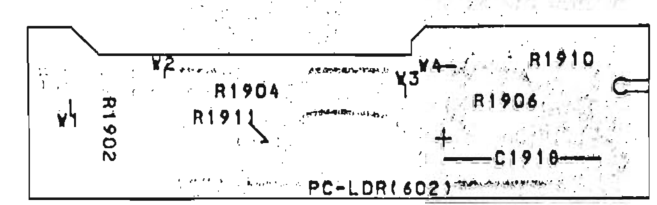


COPPER SIDE

LDR BOARD (EP41X120) COMPONENT



COMPONENT SIDE



COPPER SIDE

PC CHASSIS MAIN CIRCUIT BOARD COMPONENT LOCATION

CAPACITORS

C101—L2
C102—L1
C103—M1
C105—K2
C106—F3
C107—G1
C110—L3
C111—J1
C112—K2
C113—K2
C114—G1
C116—K1
C117—K1
C118—K1
C119—K3
C121—K2
C120—H2
C124—H2
C125—K3
C126—K3
C127—J3
C136—M3
C137—K2
C139—J3
C140—J3
C141—H2
C142—H3
C180—J4
C182—J3
C183—K5
C184—L3
C185—L3
C186—K4
C187—L5
C188—L6
C189—L3
C190—L6
C191—L4
C192—M7
C193—K6
C194—L5
C195—K5
C196—M5
C197—K5
C198—L4
C199—K6
C200—G5
C202—G4
C204—G5
C205—F5
C206—G7
C208—G6
C210—G7
C212—G4
C216—G6
C218—F7
C234—F8
C236—F8
C250—F10
C254—G10
C270—G9
C300—H7
C302—H7
C306—H5
C308—H7
C312—H7
C322—J8
C326—H9
C328—J9
C330—H9
C334—H9
C336—J4
C350—G10
C352—G10
C354—G11
C370—H7
C372—H5
C373—G8
C390—J5
C391—J5
C392—H6
C394—J6
C395—J5
C501—C3
C503—C2
C504—C2
C505—D3
C506—D2
C507—D2
C509—D2
C512—E1
C513—D1
C514—D1
C515—C1
C517—E2
C521—E2
C523—D2
C601—B2
C603—C3
C605—B1
C607—A1
C609—B1
C611—B1
C612—A1
C613—A3
C614—C4
C615—B3
C617—C3
C619—A5
C621—B5
C623—B2
C701—D5
C703—C6
C705—D7
C706—C5
C900—L10
C901—K7
C903—K8
C904—A8
C905—M8
C907—K7
C921—E10
C923—D9
C924—B11
C925—E10
C927—D9
C929—E9
C931—E9
C933—B11
C935—E9
C937—E9
C939—E8
C941—B10
C945—D11
C959—C7
C961—F3
C963—D7
C965—B7
C967—C3
C986—C6
C990—D5
C991—E5
C993—F10

RESISTORS

R101—M2
R102—L2
R103—M2
R104—L1
R105—L2
R107—K2
R109—H1
R111—E1
R112—F1
R113—F2
R114—F1
R115—H1
R116—M1
R117—G2
R118—J2
R119—J3
R121—J3
R124—M1
R125—H3
R126—K4
R127—H1
R128—H3
R129—H2
R130—J1
R131—M2
R132—L3
R133—K3
R134—H3
R135—L1
R142—M3
R162—K4
R180—H2
R181—L6
R183—L6
R186—L4
R188—L5
R190—M6
R191—M6
R192—M6
R193—L5
R194—K6
R195—K6
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R202—G4
R204—G5
R205—G5
R206—G4
R208—G4
R210—G6
R211—J5
R213—J5
R214—G11
R216—G3
R218—G4
R220—G5
R226—F7
R228—F6
R229—E1
R240—F7
R250—F11
R254—G10
R258—F6
R262—H4
R270—H9
R300—G7
R302—H6
R309—H7
R312—H5
R316—H4
R318—H6
R320—H8
R322—H8
R326—J9
R328—J8
R330—J9
R332—H8
R336—J8
R338—H9
R350—H9
R352—H9
R354—H10
R355—G10
R356—H10
R358—H10
R370—H5
R371—H6
R372—J7
R380—J10
R388—J10
R390—H8
R391—G9
R501—C2
R503—D3
R505—D3
R506—C2
R507—C2
R508—E2
R509—C2
R511—D2
R513—D2
R515—E1
R516—C1
R517—E2
R518—B1
R519—C1
R521—C1
R523—F2
R525—E2
R527—E2
R531—D3
R533—D2
R535—E2
R537—D2
R601—C3
R603—C2
R605—B3
R609—B4
R611—B3
R613—B3
R615—B2
R617—B2
R619—B3
R621—B4
R629—E11
R631—E11
R633—A1
R634—A1
R635—A1
R637—B2
R639—A3
R641—A4
R643—C4
R645—D4
R647—B4
R649—B4
R651—B5
R653—B6
R655—D3
R657—D3
R702—C5
R703—B6
R707—D5
R900—K11
R901—K9
R903—L7
R905—K8
R907—L8
R921—C11
R923—D10
R925—D9
R927—D9
R929—A11
R932—E9
R932A-F9
R933—D9
R935—F9
R936—D11
R937—D10
R939—C11
R941—F10
R951—E3
R952—E3
R953—E3
R955—E2
R957—E3
R961—E5
R963—F5
R969—D6
R971—E4
R973—E7
R975—C7
R983—B7
R985—F4
R990—E5
R996—E11
R998—D6

DIODES

Y192—M6
Y194—L6
Y198—M6
Y202—F7
Y204—F6
Y206—F7
Y300—J8
Y302—H5
Y350—J11
Y352—J11
Y354—J11
Y370—H5
Y603—D5
Y605—C4
Y607—A4
Y609—A5
Y901—K7
Y903—K8
Y905—M7
Y907—L7
Y921—D10
Y923—D9
Y925—D9
Y941—F10
Y951—F4
Y955—F5
Y957—E7
Y958—D7
Y959—E4
Y961—F3
Y963—B8
Y965—E4
Y991—D1

CRYSTAL

X300—H8

CERAMIC FILTER

CF100—K4

COILS

L101—M2
L102—L2
L103—K2
L104—F1
L106—H1
L107—G1
L108—H3
L109—G2
L135—H1
L140—G3
L180—J3
L190—K6
L196—L4
L200—G5
L204—G5
L212—H5
L220—G4
L230—G9
L236—F8
L300—G6
L320—G9
L321—G9
L322—G9
L703—D8
L901—L11
L909—A10
L921—D10
L929—A11
L951—E4

TRANSFORMERS

T192—M4
T701—B9
T703—C5

INTEGRATED CIRCUITS

IC101—J2
IC190—L4
IC300—G8
IC501—B1
IC901—F10

TEST POINTS

TP107—H2
TP108—J2
TP115—K1
TP130—F2
TP190—J3
TP250—F7
TP300—G6
TP302—G8
TP303—H5
TP306—H8
TP307—H9
TP308—G7
TP501—C1
TP502—C1
TP601—A2
TP920—G9

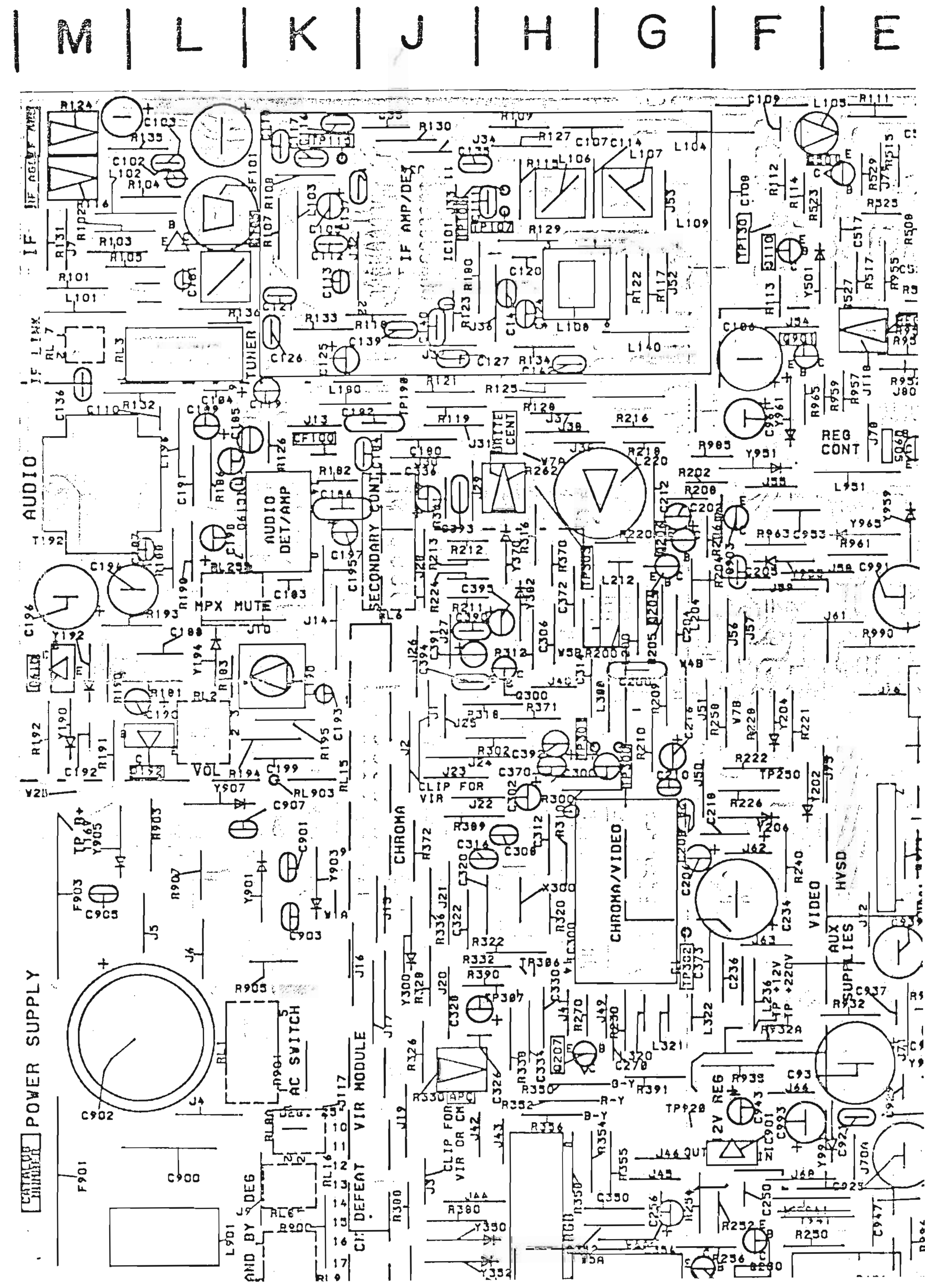
RECEPTACLES

RL1—L9
RL2—L6
RL3—L3
RL4—H11
RL8—K10
RL9—K11
RL10—D10
RL15—K7
RL16—K10
RL20—A6
RL255—L5
RL903—K7

TRANSISTORS

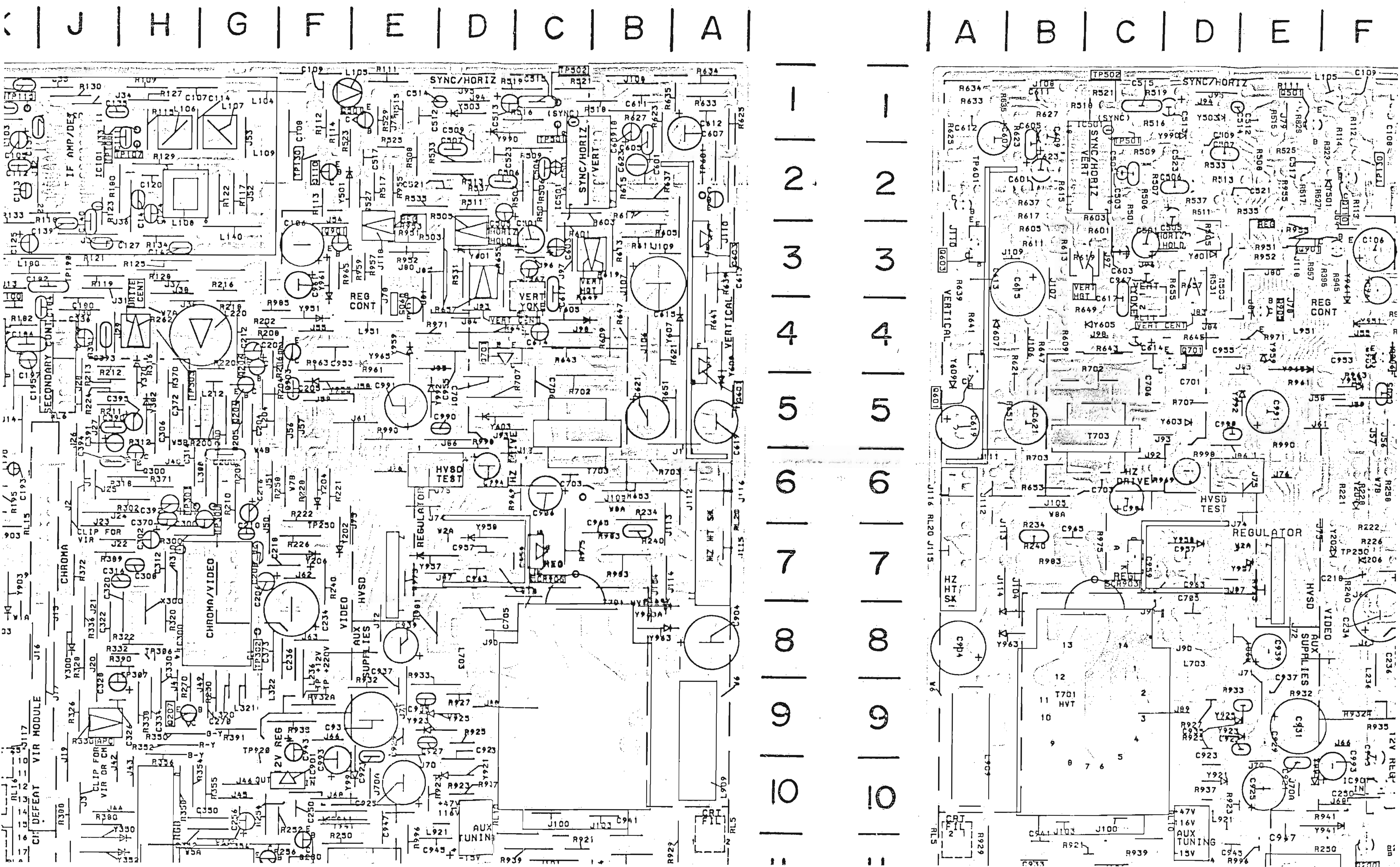
Q108—L2
Q110—F2
Q190—M6
Q192—L6
Q200—F11
Q202—F11
Q204—G5
Q207—H9
Q300—H6
Q501—E1
Q601—A5
Q603—A3
Q701—D4
Q901—F3
Q903—F4
Q905—E4

PC CHASSIS MAIN CIRCUIT BOARD LAYOUT (COMPONENT SIDE)

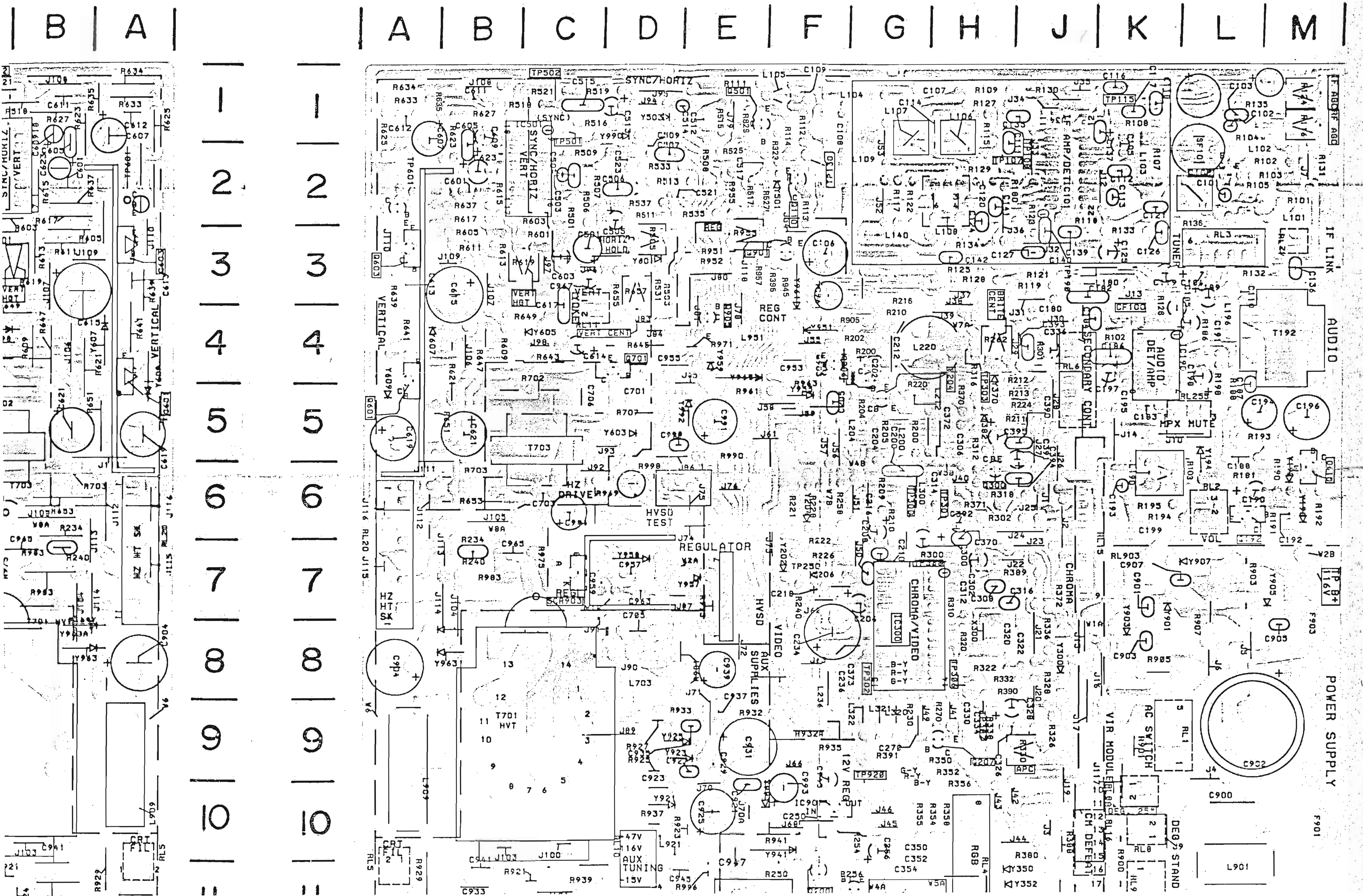


PC CHASSIS MAIN CIRCUIT BOARD LAYOUT (COMPONENT SIDE)

PC CHASSIS MAIN CIRCUIT BOARD LAYOU



PC CHASSIS MAIN CIRCUIT BOARD LAYOUT (COPPER SIDE)



PC CHASSIS MAIN CIRCUIT BOARD COMPONENT LOCATION

CAPACITORS

C101—L2
C102—L1
C103—M1
C105—K2
C106—F3
C107—G1
C110—L3
C111—J1
C112—K2
C113—K2
C114—G1
C116—K1
C117—K1
C118—K1
C119—K3
C121—K2
C120—H2
C124—H2
C125—K3
C126—K3
C127—J3
C136—M3
C137—K2
C139—J3
C140—J3
C141—H2
C142—H3
C180—J4
C182—J3
C183—K5
C184—L3
C185—L3
C186—K4
C187—L5
C188—L6
C189—L3
C190—L6
C191—L4
C192—M7
C193—K6
C194—L5
C195—K5
C196—M5
C197—K5
C198—L4
C199—K6
C200—G5
C202—G4
C204—G5
C205—F5
C206—G7
C208—G6
C210—G7
C212—G4
C215—G6
C218—F7
C234—F8
C236—F8
C250—F10
C254—G10
C270—G9
C300—H7
C302—H7
C306—H5
C308—H7
C312—H7
C314—H6
C316—H7
C320—H8
C322—J8
C326—H9
C328—J9
C330—H9
C334—H9
C336—J4
C350—G10
C352—G10
C354—G11
C370—H7
C372—H5
C373—G8
C390—J5
C391—J5
C392—H6
C394—J6
C395—J5
C501—C3
C503—C2
C504—C2
C505—D3
C506—D2
C507—D2
C509—D2
C512—E1
C513—D1
C514—D1
C515—C1
C517—E2
C521—E2
C523—D2
C601—B2
C603—C3
C605—B1
C607—A1
C609—B1
C611—B1
C612—A1
C613—A3
C614—C4
C615—B3
C617—C3
C619—A5
C621—B5
C623—B2
C701—D5
C703—C6
C705—D7
C706—C5
C900—L10
C901—K7
C903—K8
C904—A8
C905—M8
C907—K7
C921—E10
C923—D9
C924—B11
C925—E10
C927—D9
C929—E9
C931—E9
C933—B11
C935—E9
C937—E9
C939—E8
C941—B10
C945—D11
C947—E11
C953—F4
C955—D4
C959—C7
C961—F3
C963—D7
C965—B7
C967—C3
C986—C6
C990—D5
C991—E5
C993—F10

RESISTORS

R101—M2
R102—L2
R103—M2
R104—L1
R105—L2
R107—K2
R109—H1
R111—E1
R112—F1
R113—F2
R114—F1
R115—H1
R116—M1
R117—G2
R118—J2
R119—J3
R121—J3
R124—M1
R125—H3
R126—K4
R127—H1
R128—H3
R129—H2
R130—J1
R131—M2
R132—L3
R133—K3
R134—H3
R135—L1
R142—M3
R162—K4
R180—H2
R181—L6
R183—L6
R185—L4
R188—L5
R190—M6
R191—M6
R192—M6
R193—L5
R194—K6
R195—K6
R198—L4
R200—G5
R202—G4
R204—G5
R205—G5
R206—G4
R208—G4
R210—G6
R211—J5
R213—J5
R214—G11
R216—G3
R218—G4
R220—G5
R221—F6
R222—F7
R224—J5
R226—F7
R228—F6
R229—E1
R240—F7
R250—F11
R254—G10
R258—F6
R262—H4
R270—H9
R300—G7
R302—H6
R309—H7
R312—H5
R316—H4
R318—H6
R320—H8
R322—H8
R326—J9
R328—J8
R330—J9
R332—H8
R336—J8
R338—H9
R350—H9
R352—H9
R354—H10
R355—G10
R356—H10
R358—H10
R370—H5
R371—H6
R372—J7
R380—J10
R388—J10
R390—H8
R391—G9
R501—C2
R503—D3
R505—D3
R506—C2
R507—C2
R508—E2
R509—C2
R511—D2
R513—D2
R515—E1
R516—C1
R517—E2
R518—B1
R519—C1
R521—C1
R523—F2
R525—E2
R527—E2
R531—D3
R533—D2
R535—E2
R537—D2
R601—C3
R603—C2
R605—B3
R609—B4
R611—B3
R613—B3
R615—B2
R617—B2
R619—B3
R621—B4
R623—B1
R625—A1
R627—B1
R629—E11
R631—E11
R633—A1
R634—A1
R635—A1
R637—B2
R639—A3
R641—A4
R643—C4
R645—D4
R647—B4
R649—B4
R651—B5
R653—B6
R655—D3
R657—D3
R702—C5
R703—B6
R707—D5
R900—K11
R901—K9
R903—L7
R905—K8
R907—L8
R921—C11
R923—D10
R925—D9
R927—D9
R929—A11
R932—E9
R932A-F9
R933—D9
R935—F9
R936—D11
R937—D10
R939—C11
R941—F10
R951—E3
R952—E3
R953—E3
R955—E2
R957—E3
R961—E5
R963—F5
R969—D6
R971—E4
R973—E7
R975—C7
R983—B7
R985—F4
R990—E5
R996—E11
R998—D6

DIODES

Y192—M6
Y194—L6
Y198—M6
Y202—F7
Y204—F6
Y206—F7
Y300—J8
Y302—H5
Y350—J11
Y352—J11
Y354—J11
Y370—H5
Y501—F2
Y503—D1
Y601—D3
Y603—D5
Y605—C4
Y607—A4
Y609—A5
Y901—K7
Y903—K8
Y905—M7
Y907—L7
Y921—D10
Y923—D9
Y925—D9
Y941—F10
Y951—F4
Y955—F5
Y957—E7
Y959—D7
Y959—E4
Y961—F3
Y963—B8
Y965—E4
Y99_—D1

CRYSTAL

X300—H8

CERAMIC FILTER

CF100—K4

COILS

L101—M2
L102—L2
L103—K2
L104—F1
L106—H1
L107—G1
L108—H3
L109—G2
L135—H1
L140—G3
L180—J3
L190—K6
L196—L4
L200—G5
L204—G5
L212—H5
L220—G4
L230—G9
L236—F8
L300—G6
L320—G9
L321—G9
L322—G9
L703—D8
L901—L11
L909—A10
L921—D10
L929—A11
L951—E4

TRANSFORMERS

T192—M4
T701—B9
T703—C5

SAW FILTER

SF10—L2

INTEGRATED CIRCUITS

IC101—J2
IC190—L4
IC300—G8
IC501—B1
IC901—F10

TEST POINTS

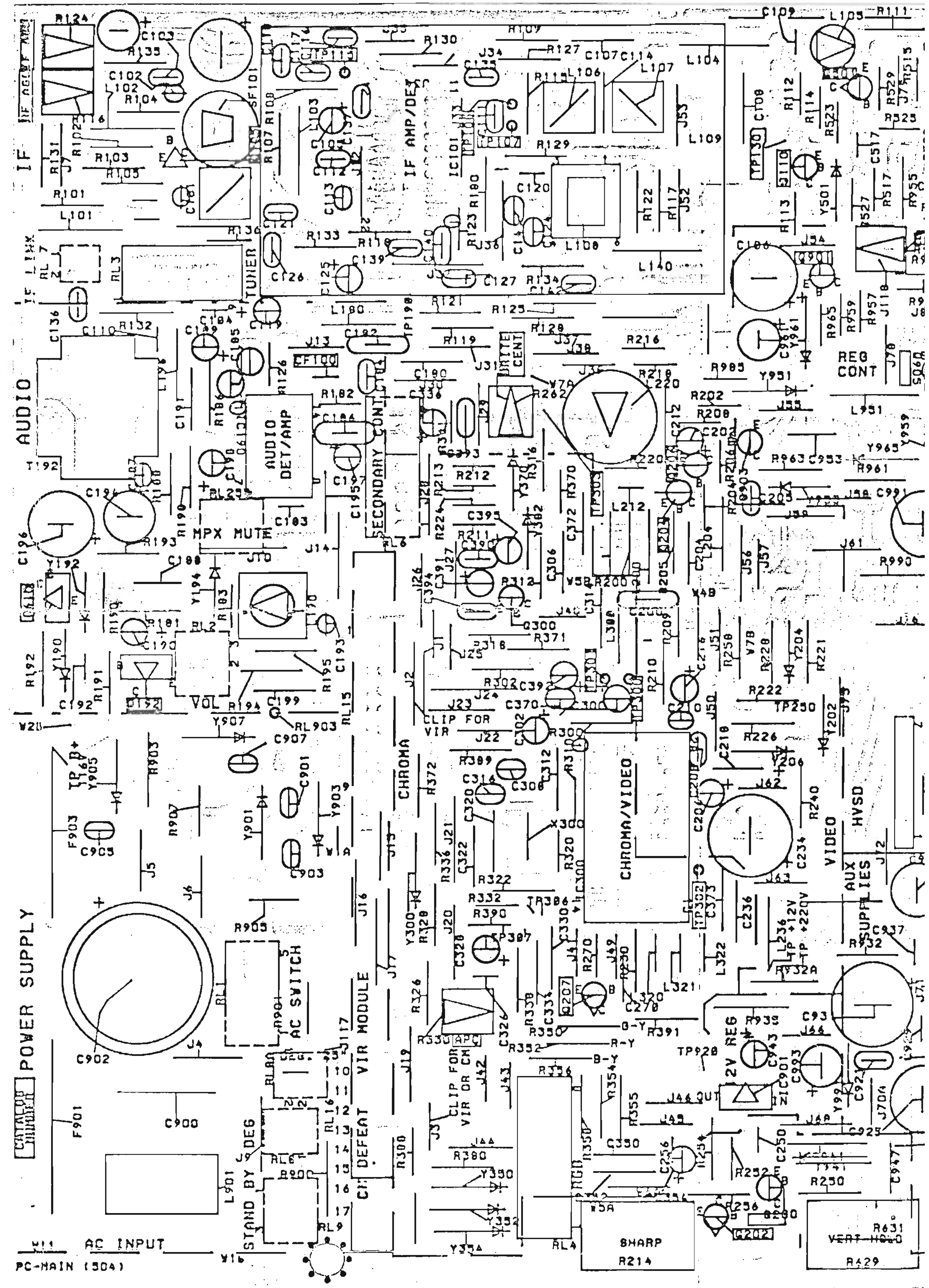
TP107—H2
TP108—J2
TP115—K1
TP130—F2
TP190—J3
TP250—F7
TP300—G6
TP302—G8
TP303—H5
TP306—H8
TP307—H9
TP308—G7
TP501—C1
TP502—C1
TP601—A2
TP920—G9

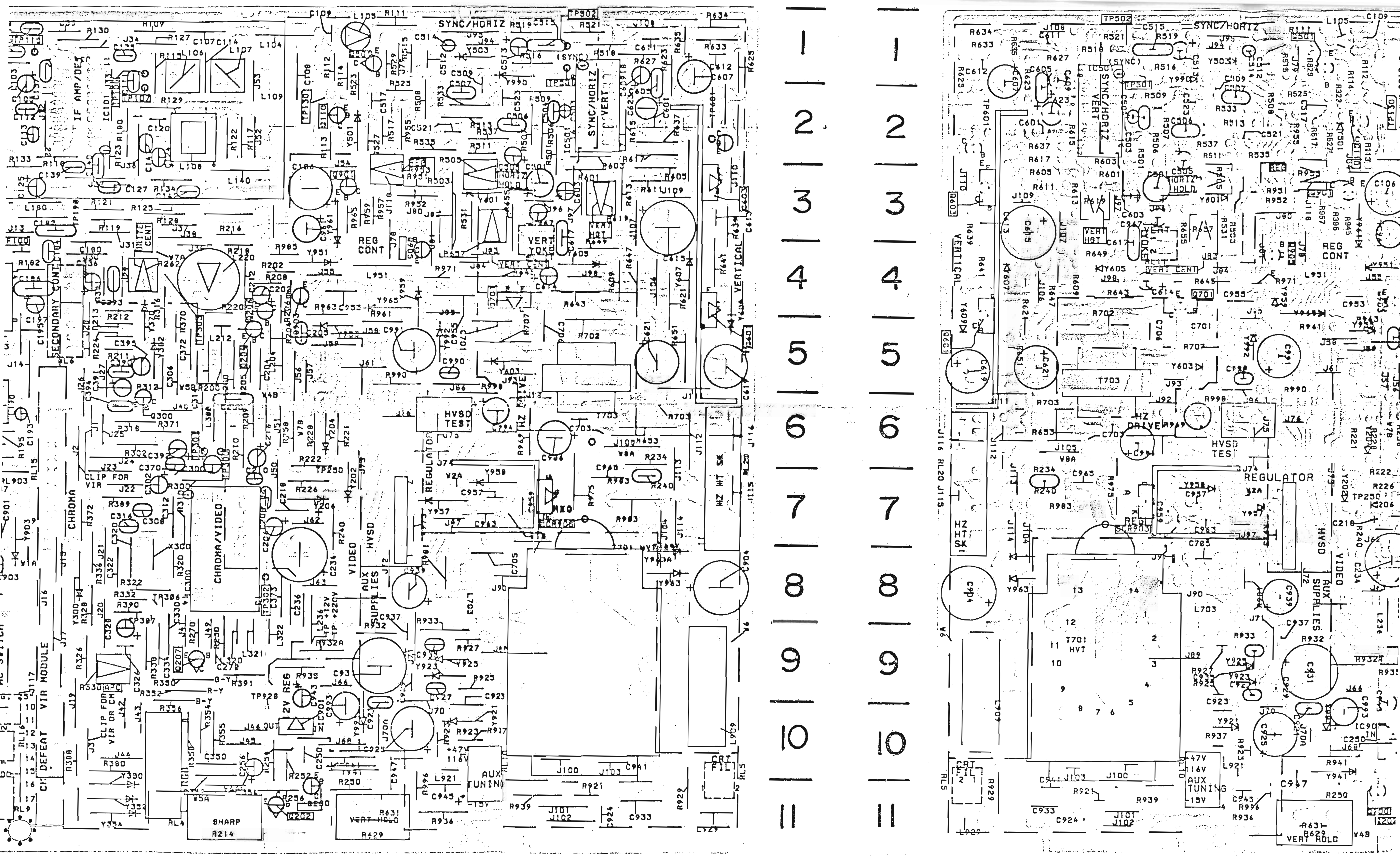
RECEPTACLES

RL1—L9
RL2—L6
RL3—L3
RL4—H11
RL8—K10
RL9—K11
RL10—D10
RL15—K7
RL16—K10
RL20—A6
RL255—L5
RL903—K7

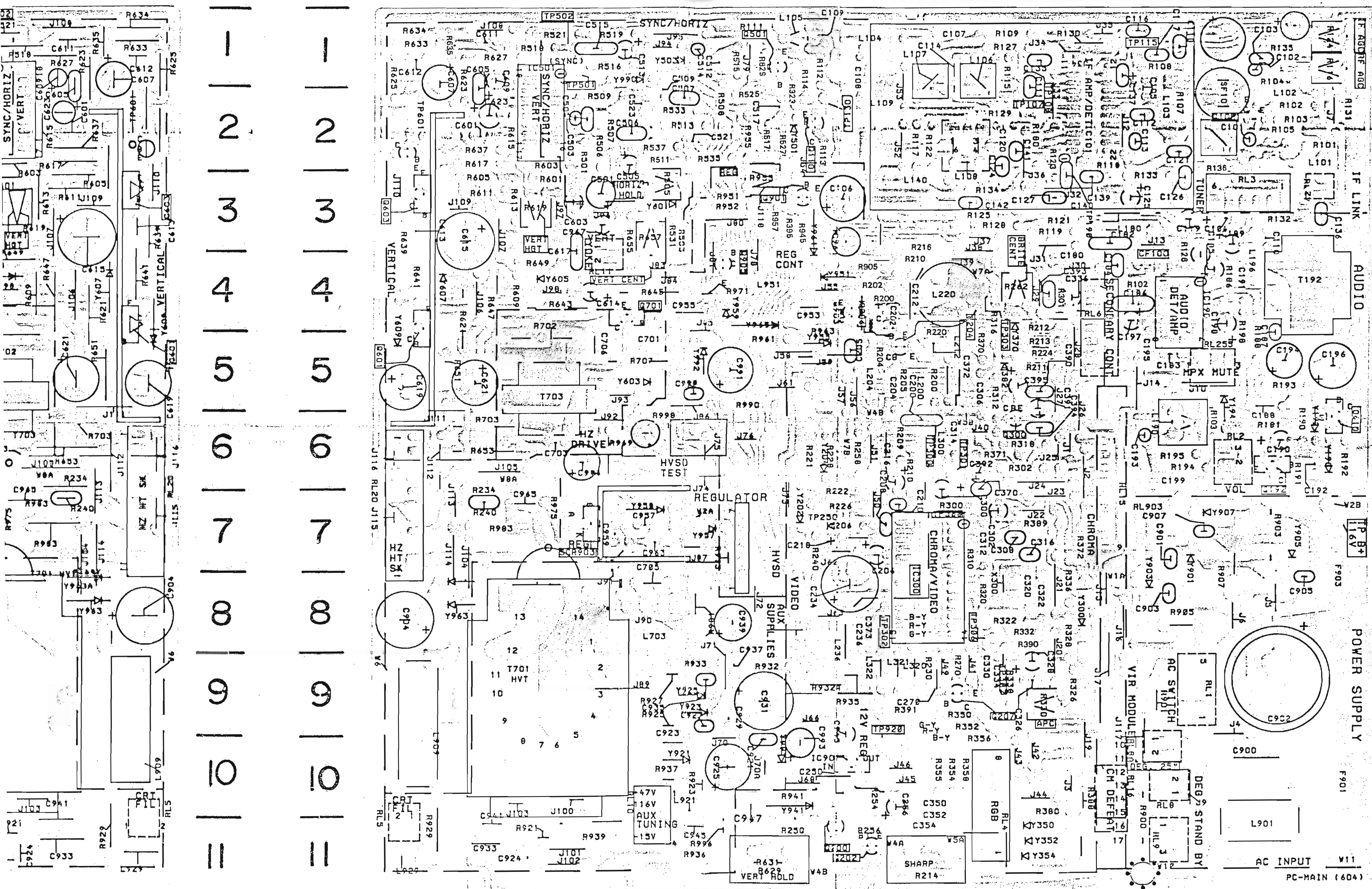
TRANSISTORS

Q108—L2
Q110—F2
Q190—M6
Q192—L6
Q200—F11
Q202—F11
Q204—G5
Q207—H9
Q300—H6
Q501—E1
Q601—A5
Q603—A3
Q701—D4
Q901—F3
Q903—F4
Q905—E4




SYNC/HORIZ
IF AMP/DET
SECONDARY CONT
CHROMA
CHROMA/VIDEO
VIR MODULE
DEFEAT
CLIP FOR VIR
CLIP FOR VIR OR CH
SHARP
VERT HOLD
AUX TUNING
+47V
116V
-15V
CRT FIL
REGULATOR
HVSD TEST
HZ DRIVE
VERT YOKE
VERT HOT
VERT CENT
REG CONT
VERTICAL
HZ HT SK
AUX SUPPLIES
VIDEO
HVSD
12V REG
T701 HVT
T703
1
2
3
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5
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11

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SYNC/HORIZ
VERTICAL
IF AMP/DETECTOR
TUNER
IF LINK
AUDIO
AUDIO DET/AMP
MPX MUTE
SECONDARY CONT
CHROMA
CHROMA/VIDEO
REGULATOR
HZ DRIVE
HVSD TEST
REG CONT
VERT CENT
VERT HGT
HORIZ HOLD
T701 HVT
T703
AUX SUPPLIES
12V REG
AUX TUNING
VIR MODULE
AC SWITCH
POWER SUPPLY
CM DEFEAT
DEG/STAND BY
AC INPUT
RGB
SHARP
VERT HOLD
CRT FIL
PC-MAIN (604)